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OUR HEALTH, OUR FUTURE : A
COMPREHENSIVE HEALTH CARE
PLAN FOR HAMILTON- WENTWORTH
HEALTH ACTION TASK FORCE
WORKING PAPER ON LAND AMBULANCE
SERVICES .

OUR HEALTH, OUR FUTURE

A COMPREHENSIVE HEALTH CARE PLAN
FOR
HAMILTON-WENTWORTH

HEALTH ACTION TASK FORCE WORKING PAPER
ON
LAND AMBULANCE SERVICES

prepared by
H-W DHC Staff
February 23 , 1996

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GOVERNMENT DOCUMENTS

Hamilton-Wentworth District Health Council

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Preface

The Health Action Task Force was mandated by the District Health Council in February 1995 to develop a comprehensive health care plan to guide the restructuring and management of health care services in Hamilton-Wentworth.

Working papers and supporting documents were developed by working groups, and in some instances, staff and consultants. These documents focused on acute care, emergency and land ambulance services, primary health care, continuing care, inclusive of long term care, chronic care rehabilitation and chronic care, mental health, a H-W community profile, health human resource planning , facilities assessments, health system integration, and results from open consultations.

Working group membership generally included Task Force members, District Health Council members, planning staff and Ministry of Health resource persons. Each working group was chaired by a member of the Health Action Task Force. The purpose of the working groups was to define the scope of the task, and determine the consultation processes required to inform the task. Working groups, and staff, were responsible for identifying relevant data and information, key stakeholders, key informants, relevant literature, and studies and reports. The reports of the working groups and staff reports were received as information by the Task Force.

All of the working groups were working concurrently. Some recommendations were made in the absence of evolving information, new analyses and facilities assessments. All recommendations were considered by the Task Force in the development of a comprehensive and cohesive health care plan.

For additional information, please contact the District Health Council at 570-0354 Ext. 159.

TABLE OF CONTENTS

Page #

1.0 Introduction 1

2.0 Summary of Issues and Recommendations 1

3.0 Performance Standards 2

4.0 Data Systems 2

5.0 Resource Deployment Planning 3

6.0 System Optimization 4

7.0 Elective Patient Transfers 5

8.0 Community Care / Expanded Role 6

9.0 Expansion of Advanced Life Support (ALS) 7

10.0 Governance and Accountability 8

Appendices

Critical Juncture Advisory Groups
Bibliography
Glossary of Terms
Background Paper: Land Ambulance Services in Hamilton-Wentworth

1.0 INTRODUCTION

The Hamilton-Wentworth land ambulance system was reviewed with the goal to identify current service strengths and weaknesses, and options to improve the level of service. This task was accomplished through the analysis of service data and key informant meetings with the Regional EHS management group, the Pre-Hospital Quality of Care Committee of the Chedoke-McMaster Paramedic Base Hospital and the Elective Patient Transfer Task Force (see appendix).

The strengths of the pre-hospital system include 911 coverage, firefighter first response, paramedic program, centralized and automated ambulance dispatching, elective patient transport system, regionalized critical care network, central bed registry (including emergency department status reporting), pre-hospital data base and critical care transport teams (paediatric, neonatal and adult). A summary of system capacity is included in the appendix.

Much is owed to the cooperation of all service providers, EHS managers and the Paramedic Base Hospital for the leadership, planning and ongoing coordination of the system. Recent initiatives will create an additional 14 paramedic positions to improve the level of service in Hamilton and the rural areas of Flamborough. Another success has been the launch of the designated EPT (Elective Patient Transfer) pilot project, which has resolved delays in the transport of elective patients. Ambulance dispatch will also be consolidated at a new location at the Hamilton Psychiatric Hospital and will use electronic “state-of-the-art” dispatching, known as ARIS (Ambulance Response Information System).

2.0 SUMMARY OF ISSUES AND RECOMMENDATIONS

The Acute Care Working Group identified the following issues / concerns to be addressed in order to make the ambulance system more responsive, cost-effective and integrated with other components of the health care system.

- Performance Standards
- Data Systems
- Resource Deployment Planning
- System Optimization
- Elective Patient Transfers
- Community Care / Expanded Role
- Expansion of Advanced Life Support (ALS)
- Governance and Accountability

3.0 PERFORMANCE STANDARDS

A key goal of the paramedic base hospital program is to develop and maintain pre-hospital performance standards. A recent review of Ontario's land ambulance system completed by the provincial auditor[1], found little evidence of performance standards for the industry and few examples of review and evaluation of ambulance response times. The report concluded that this has led to weaknesses in identifying ambulance resource needs on a community basis.

Recently, the Pre-hospital Quality of Care Committee was asked by the Joint Liaison Committee to develop performance standards for the pre-hospital system in Hamilton-Wentworth. Key areas that require the development of performance standards include ambulance response time performance, productivity measures, costs, patient outcome measures, documentation, clinical capability, interval times and patient satisfaction. These standards will require significant development time and the proper authority to direct the necessary changes to improve ambulance services in Hamilton-Wentworth.

Option 1: Health Action Task Force to affirm the need to develop ambulance service performance standards, and to support the Pre-hospital Quality of Care Committee in this role.

Pro:

Will lead to more cost effective and productive use of limited pre-hospital care resources and will form the basis of a more rational planning and evaluation of services. Costs: $10,000 for evaluation.

Challenge:

Multiplicity of provider organizations to coordinate to achieve service standards. May lead to confrontation and lack of partnerships. Will require significant organizational and policy changes in management of ambulance services.

4.0 DATA SYSTEMS

The Ambulance Response Information System (ARIS) was implemented by the Hamilton-Wentworth Central Ambulance Communication Centre in November, 1995. Across Ontario where ARIS has been implemented, the information system has not lived up to expectations to produce the data for effective management and planning. For example, average response time data has not been available since 1991-92. Lack of data has resulted in few evaluations of deployment strategies and the productivity of services and dispatchers.

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[1] Office of the Provincial Auditor, 1995 Annual Report - Accountability, Accounting, Value for Money

Option 2: Improve the capability of the Ambulance Response Information System to produce information to effectively plan, evaluate and manage the ambulance service system.

Pro:

Will lead to improvements in key areas of the pre-hospital system in relation to response times, productivity, adherence to standards and resource deployment. Cost: $10,000

Challenge:

Dependent upon specifications and time lines of the Ministry of Health for responsive local level reporting. Lack of staff resources in dispatch centres and regional offices to develop ARIS system for planning purposes.

Data for the pre-hospital system is collected at several points along the continuum of care: by the fire fighters, by the ambulance crews, by paramedics, by emergency departments and regional critical care programs. None of these systems are integrated and all require the manual re-entry of data, often at added costs. Therefore, the pre-hospital system data bases are fragmented and costly and do not provide evaluative data on a timely basis.

Option 3: Establish, as a priority, the integration of pre-hospital, hospital ER and critical care databases.

Pro:

Provides for a comprehensive and integrated database to monitor pre-hospital performance and outcomes in a cost effective manner. Costs: $40,000 development and evaluation.

Challenge:

Confidentiality/security of information, development time, compatibility of ad-hoc systems and data ownership.

5.0 RESOURCE DEPLOYMENT

Resource deployment is a strategy used to manoeuvre ambulance and crews strategically to meet anticipated service demands with scarce resources and to ensure the shortest response time possible. A deployment strategy is based on historical experience and the predicted likelihood of requests for service in a designated area. Anecdotal evidence suggests that resources are not deployed using a system status management model to meet anticipated demands. The most recent data available suggests that response times for the ambulance service should be improved through system optimization techniques and more rigorous models for resource deployment. The need to evaluate services to the Stoney Creek area is a priority, given high volumes and higher than average response times.

Option 4: Implement more rational resource deployment plans based on system status management technology.

Pro:

Ensures optimum response time and better patient outcomes. More efficient use of resources and increased productivity. Costs: $15,000.00

Challenge:

Requires development time and coordination within the Central Ambulance Communication Centre. Requires responsiveness of service operators and potential re-alignment of bases, stand-by locations, etc.

6.0 SYSTEM OPTIMIZATION

System optimization refers to the use of various techniques to reduce response times. Early pre-hospital system activation and response is beneficial to the survival of the cardiac arrest patient, particularly when rapid defibrillation and other advanced life support procedures can be accessed immediately. Although the ambulance system in Hamilton-Wentworth is greatly assisted by fire fighter tiered response to reduce time to early cardiac defibrillation, ambulance crews are arriving at the scene in about 9 minutes - and only 61% of life threatening calls are responded to by the ambulance service in 9 minutes or less. The OPALS fractile benchmark is 90% in under 8 minutes. Provincial benchmarks for crew activation and dispatching will be revised to 1 minute, yet only 24% of crews are mobile in under a minute, and dispatcher response time is under 1 minute only 23% of the time.

A number of ambulance services across the province have successfully implemented response time optimization techniques[2]. Techniques include review of local response times; improved dispatch algorithms; early public safety notification; elective patient transport systems; base paging; roving vehicles and system status management.

Option 5:	Review and, where appropriate, implement proven system optimization techniques in the pre-hospital system.

Pro:

Improves accessibility to timely advanced life support services and ultimately improves patient outcomes. Costs ($25,000 set-up and evaluation). Improves coordination/integration of dispatch and frontline services. Increases productivity, efficiency and effectiveness. Positive evaluation of some systems in Ontario.

Challenge:

Costs, while minor, are always a consideration. Cooperation of crews, dispatchers, 911 services needed, particularly around productivity issues, standards and changes in current deployment patterns. Ministry leadership needed to adopt standards for system optimization province-wide.

7.0 ELECTIVE PATIENT TRANSPORT

About 30% of all ambulance calls are non-urgent and involve the transport of elective patients between facilities for diagnostic tests, therapeutic treatments, routine admission, or for the routine discharge of patients to their home residence. Since emergency calls take precedent over elective calls, ambulance availability has caused considerable patient delays and late appointments. Secondly, lack of coordination in scheduling has resulted in crew delays and ineffective use of ambulance resources. Costs also accrue to hospitals when tests are delayed or when nurse escorts are assigned to accompany the patient.

In response to these concerns a local task force was established and developed a pilot project for an elective patient transport system for Hamilton-Wentworth.[3] This involved 2 designated elective vehicles (plus 1 float), all acute care hospitals, the Cancer Centre and St. Peter's Hospital. The pilot was initiated in April, 1995. After six months it was shown tnat long patient waits were virtually eliminated and no patient appointments were missed. Hospital staff escort costs were decreased. Productivity, however, remains a problem attributable to minimal volumes (5 transfers per day). The pilot has recently been expanded to return patients home or to long-term care facilities. The project encourages the use of alternate transportation, pre-booking, door-to-door pick-up/drop-off and tools for selecting appropriate transportation.

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[2] Joint Task Force Report, Review of Response Time Optimization Techniques - Pre-hospital System, 1995.

[3] Elective Patient Transfer Task Force. A Proposal for a Regional Elective Patient Transfer System, 1994.

Option 6: Continue to support and evaluate the Hamilton-Wentworth Elective Patient Transfer Pilot Project, to expand the service to address unmet needs and to implement an effective marketing strategy.

Pro:

Expansion to include a wider range of facilities and patients. Will build on the existing system and increase quality and efficiency in the ambulance service. These costs are met within existing resources, with some re-alignment of portering services in hospitals. Costs of evaluation and marketing $20,000.

Challenge:

To maximize productivity may require more time, cooperation and effort of physicians, hospitals and dispatch to use the service on a pre-booked basis. Lack of targets/benchmarks may make this difficult. Effective marketing is required.

8.0 COMMUNITY CARE / EXPANDED ROLE

Trends towards community-based care, patient focused care by multidisciplinary teams, and the expansion of allied health personnel to assume non-traditional roles in the delivery of health care, have also impacted on ambulance service personnel. An example has been the use of paramedics in the restructuring of the Chedoke Urgent Care Centre. Paramedics are now responding to in-hospital emergencies and in the urgent care centre as they are needed. This has enabled the hospital to maintain quality, reduce costs and maintain access. Skills have been expanded to IV therapy and other activities, like drawing blood, performance of ECGs, etc. The paramedic role, therefore, has expanded beyond traditional boundaries. This has created better integration between in-hospital and pre-hospital personnel. The results are better learning, economics and the team approach to patient focused care.

An expanded paramedic role could be achieved within existing resources. For example, it was shown that the call demand for Hamilton services was approximately 5 calls per hour in 1991-92. Recent data provided by the Base Hospital Program shows that paramedics are busy 2 hours in 4. This suggests that paramedic crews can apply their range of skills to other areas when they are not responding to emergency calls. The fire services in Ontario do fire prevention checks in the community when not fighting fires. It is therefore reasonable to utilize emergency professionals in community activities, while maintaining emergency coverage.

Examples of community care initiatives might include:

- monitoring at-risk elderly in the home for falls, medication use and other safety checks
- augment the adult critical care transport team when this is safe and appropriate

Option 7: Promote the goals of community-based preventative care and cost effective care by utilizing the skills of trained paramedics in broader aspects of health care delivery.

Pro:

Builds on the strengths of proficiently trained paramedics and has been proven to be beneficial (costs, quality) to hospitals. Increases productivity in the ambulance system. Improves access to preventive programs for high-risk groups in the community. Interventions are well-established. Longer term reductions in hospital costs. Builds on opportunities for research and education. Costs for evaluation and high-risk registry are $15,000.

Challenge:

Need to develop training modules for fall safety and medication compliance - have already been developed by Trauma Prevention Council and Public Health. Need support of service operators and Ministry for expanded role project. Opportunities for private sector funding. Need to build integration of the program with physicians, hospitals, home care, etc. Security of electronic data base high risk registry an issue. Accountability of paramedic to be resolved. Protocols for paramedic support of CCTU team to be resolved.

9.0 EXPANSION OF ADVANCED LIFE SUPPORT (ALS)

In 1986, Hamilton's paramedic program became permanent after the pilot project phase began in 1984. In 1986, only 20% of life threatening calls were responded to by paramedics. At present, through proper management of resources, about 54% of life threatening calls are responded to by ALS paramedics, teamed with a basic life support (BLS-D) attendant with defibrillation. In 1988, Hamilton introduced defibrillation among all ambulance crews. With the recent announcement to expand the complement of paramedics from 14 to 28, 80% of life threatening calls will have access to a paramedic. Additionally, paramedics, for the first time, will be expanded to include Flamborough (2). With the added benefit of the fire fighter defibrillation program for Hamilton-Wentworth which began in 1989, average response time to early defibrillation has dropped to 8.5 minutes, and the survival rate has increased from 8% to 19%. Also, studies show that patients who receive paramedic care do better than those who don't.

Despite the added resources, ALS resources must be effectively deployed to provide maximum paramedic coverage during peak periods. This requires the right mix of FRU's (non-transport ALS First Response Units) and ALS personnel, combined with BLS-D units. Deployment plans should relate to the most cost-effective configuration or mix of personnel to respond to emergency calls. At issue is the need to continually adjust resources to match the level of need.

Alternate strategies under review by the Paramedic Base Hospital Program include:

- train more paramedics and not basic attendants to defibrillate (latter could work on the elective patient transfer service)
- always staff emergency vehicles with one paramedic and one basic attendant
- improve vehicle deployment schedules to make full use of designated transfer and emergency vehicles
- have a duty supervisor provide 24 hour, on-line supervision in the field
- continue to use ALS non-transport first response units to provide consultation only at scene
- consider increasing to 2 ALS non-transport first response units and create 2 BLS/BLS units in the core

Option 8: To support the development of appropriate crew configurations, ALS non-transport units and ALS/BLS units to maximize the use of ambulance resources and to enhance the quality of emergency and non-emergency calls.

Pro:

Promotes cost effective use of limited ALS resources, improves patient care and maximizes access through maximum ALS coverage. Improvements achieved within existing resources. Builds on well-established paramedic and elective patient transport systems. Opportunities for evaluative research and training. Costs: $5,000 for evaluation.

Challenge:

In some cases, does not match BLS crew member to an ALS provider. Potential disruption in current staffing and may have negative impact on staff. Proposal must be approved by service operators and Ministry of Health. Plan may require the addition of one serviced vehicle.

10.0 GOVERNANCE AND ACCOUNTABILITY

The governance of Ontario's ambulance services has recently come under review. Recalling the Provincial Auditor's Report, there are few current initiatives to bring in standardization, where this would improve quality of service and maximize use of resources. A key concept in the Auditor's report is the inability to respond to local needs. Ambulance Services are accountable to the Minister of Health and the provisions of the Ambulance Act through a licence with a private operator. Reviews of system performance, needs and standards on a regional basis are weak.

Locally, there is the perception of a lack of authority and accountability to instigate local changes based on efficiency and performance targets. These plans, strategically, are being addressed by the Pre-Hospital Quality of Care Committee. However, service providers may lack the proper incentives and leadership to move the system to positive change. This is systemic and not specific to Hamilton-Wentworth. One example is the lack of productivity benchmarks for the elective patient transfer service. This not only requires significant efforts on the part of all providers, but the necessary authority to implement change. Without performance targets and the right incentives there is little motivation to maximize the use of the service. The critical juncture advisory group supports the need to review an appropriate governance system.

In a recent report submitted by the Regional Chairs of Ontario[4], it is recommended that ambulance services come under regional government, which is accountable and capable of rationalizing and coordinating service provision and setting standards. A key concept is that more local autonomy will create better cost effective services. The report implies that standards for emergency response are vague and are left to vagaries of contracts It is proposed that the emergency response system be the responsibility of the regions. This will ensure an integrated regional response in a cost effective and efficient manner.

Option 9: Review alternate governance structures to improve the quality, efficiency and effectiveness of the Hamilton-Wentworth ambulance system.

Pro:

Provides accountability, standards, performance measures and management to ensure the ambulance service is accessible, appropriate, cost effective and coordinated. Costs $25,000.00 for feasibility study.

Challenge:

Need evaluations to show whether governance models lead to desired outcomes. Indeed, review of Metro Toronto Ambulance, by the Provincial Auditor, raises issues of quality and costs of regional involvement. A more comprehensive review of Metro Toronto is forthcoming. Change in governance may pose dramatic charges to service operators, e.g. performance-based contracting for standards and productivity. Divestment of governance by provincial government may effect public administration and management at provincial level. Costs for regional management system to be ascertained.

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[4] Regional Chairs of Ontario In Pursuit of Better Government - The Provincial Regional Partnership in the Areas of Service Responsibility / Governance and Financing, 1995.

APPENDIX

APPENDIX 1

CRITICAL JUNCTURE ADVISORY GROUPS

REGIONAL EHS MANAGERS GROUP

Mr. E. Jones, Acting Regional Manager
Mr. Jim King, Acting Assistant Regional Manager

PRE-HOSPITAL QUALITY OF CARE COMMITTEE

Mr. B. Browett, Base Hospital Program
Ms. L. Browett, Base Hospital Program
Ms. D. Buchanan, Base Hospital Program
Dr. J. Chen, Base Hospital Program
Ms. K. Dunster, Fleetwood Ambulance
Ms. A. Iacobucci, Hamilton General Hospital
Mr. E. Jones, Emergency Health Services
Mr. P. MacDonnell, Central Ambulance Communication Centre
Mr. D. McArthur, Flamborough Ambulance
Mr. G. Ostafi, Hamilton-Wentworth Regional Police
Mr. G. Peace, Hamilton-Wentworth Fire Department
Mr. B. Peters, Dundas Fire Department
Ms. E. Smith, Hamilton General Hospital
Mr. G. Walton, Superior Ambulance
Mr. M. Wisniewski, Critical Care Transport Unit

ELECTIVE PATIENT TRANSFER TASK FORCE

Beverly Robertson, Hamilton Civic Hospitals
Darlene Kennedy, St. Joseph's Hospital
Dr. F. Baillie, Chedoke-McMaster Hospitals
Ms. Jean Hay, St. Peter's Centre
Mr. Jim King, EHS Branch
Ms. Mona Lafleur, Regional Cancer Centre
Mr. Paul MacDonnell, CACC
Ms. I. Medcof, Home Care Program
Mr. Tony Olynich, Chedoke-McMaster Hospitals
Ms. Ira Ross, Fleetwood/Superior Ambulance
Mr. Brian Tutty, Fleetwood/Superior Ambulance
Mr. Kevin Agnew, Fleetwood/Superior Ambulance

APPENDIX 2

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Review of Response Time Optimization Techniques - Pre-Hospital System, Joint Task Force Report, 1995

In Pursuit of Better Government - The Provincial/Regional Partnership in the Area of Service Responsibility, governance and Financing, Regional Chairs of Ontario, 1995

Central West Elective Patient Transport Review, Central West Emergency Health Services Advisory Committee, 1995

A Proposal for a Regional Elective Patient Transfer System, Elective Patient Transfer Task Force, 1994

APPENDIX 3

GLOSSARY OF TERMS

ALS

Advanced Life Support

ARIS

Ambulance Response Information System

BLS

Basic Life Support

BASE HOSPITAL PROGRAM

A program designated by the Ministry of Health to provide leadership and medical direction in pre-hospital emergency health services for a specific geographical area.

BASE PAGING

Crews notified of emergency calls through paging system, resulting in quicker activation of crews.

CACC

Central Ambulance Communication (Dispatch) Centre

CENTRAL AMBULANCE COMMUNICATION CENTRE

The ambulance dispatch centre.

DEFRIBILLATION

The external application of an electric shock to the heart to depolarize the heart's cells converting ventricular fibrillation into an organized rhythm.

DEMAND COVERAGE

The deployment of ambulances in a specified service based on historical experience and the predicted likelihood of requests for service in that area at the time deployed.

DEPLOYMENT

The strategy used to manoeuvre ambulances and crews to reduce response times.

DEPLOYMENT PLAN

The formal plan used to maximize ambulance coverage for a designated service area.

EHS

Emergency Health Services

LAUNCH TIME

The time measured between receipt notification of assignment and actually leaving the station or location.

OPALS

Ontario Pre-hospital Advanced Life Support Study.

OUT OF CHUTE TIME

The time interval between unit alert and the actual time the unit leaves its location en route to the assignment.

RESPONSE TIME

The interval of an ambulance call measured from the time the initial call for assistance is received until the ambulance arrives at the patient location.

RESPONSE-TIME PERFORMANCE PERCENTAGES

Measurement of response times on a fractile basis as a percentage of compliance with a defined standard of performance.

ROVING VEHICLES

Ambulances are stationed or are mobile in areas where emergency calls are anticipated.

SYSTEM STATUS MANAGEMENT

A computerized personnel and ambulance deployment system designed to meet service demands with fewer resources and to ensure appropriate response time and vehicle location.

TIERED RESPONSE

A collaborative community emergency response between public safety agencies to assist with patient care. Patient care includes site preparation and assisting the ambulance service with medical care.

VSA

"Vital Signs Absent", meaning no pulse, blood pressure or respirations.

BACKGROUND PAPER: LAND AMBULANCE SERVICES IN HAMILTON-WENTWORTH

SUMMARY OF RESOURCES AND UTILIZATION

TABLE OF CONTENTS

I. Summary of Pre-hospital Services

II. Ambulance Service Call Volumes

III. Response Time Intervals

IV. Elective Patient Transport

V. Firefighter First Response

VI. Qualitative Findings

Appendices

I. SUMMARY OF PRE-HOSPITAL SERVICES

The Hamilton-Wentworth region covers 1,136 square kilometres and has a population of 459,656. The emergency medical system is activated through the single-access 911 telephone line, answered by the Hamilton-Wentworth Regional Police. The 911 system handled 118,000 calls in the last 12 months. Calls are referred to the ambulance dispatch centre. The CACC handled 47,063 calls in 1993-94, of which 30,985 (66%) were dispatched as urgent/emergent calls. At the dispatch centre, life or limb threatening requests activates tiered response and sending of basic life support or advanced life support (paramedics) to the scene. Tiered response includes Hamilton firefighters trained in basic first aid, CPR and automated defibrillation (Rapid Zap Program).

There are 4 Hamilton-Wentworth ambulance services in operation:

Ancaster	Municipal
Flamborough	Private
Superior	Private
Fleetwood	Private

All are fully funded by the Ministry of Health and are regulated primarily by the Ambulance Act. Table 1 summarizes the current land ambulance resources available in Hamilton-Wentworth.

Quality assurance and additional training of the ambulance personnel is conducted by the Chedoke-McMaster Paramedic Base Hospital Program. A base hospital is a facility designated by the Ministry of Health to provide medical direction, leadership and support in the provision of ambulance based pre-hospital emergency health care within a specified geographical area. This includes acting as a resource centre and coordinating facility, and includes identifying and meeting the local community's ambulance based pre-hospital care needs, including public education, injury prevention, etc. In addition, the base hospital provides training, quality assurance, continuing education and guidance to ambulance pre-hospital emergency care workers at both basic and advanced life support levels. The base hospital functions in an advisory capacity to the Ministry of Health on matters relating to ambulance based pre-hospital care.

In Hamilton-Wentworth tiered response consists of Fire First Responders (trained in basic first aid, CPR and automated defibrillation), ambulance attendants trained in defibrillation (BLS-D) and full-service paramedics (ALS). A paramedic first response unit (non-transport) operates in the city core and ALS-BLS crews are deployed in non-core areas, such as Stoney Creek. With the current compliment of paramedics, about 54% of all emergency calls are attended to by a paramedic.

The ambulance/hospital interface protocols for critical care site selection appear in Table 2. Essentially adult non-trauma cases are brought to the nearest appropriate facility as directed by ambulance dispatch. Exceptions are noted for pediatric and trauma cases, psychiatric and dialysis emergencies and pre-arrangements. A key consideration is the status of the emergency department with respect to re-direct, critical care by-pass, or in patient bed status.

The typical ambulance crew consists of two BLS-D personnel, or a paramedic with an ambulance attendant (ALS/BLS-D). Most life threatening calls are responded to by the BLS-D officer.

Expansion of the paramedic program will create 14 new positions for a total of 28. Two will be stationed in Flamborough. It is estimated that 80% of life threatening calls in Hamilton will receive paramedic coverage. Call data is collected in the Hamilton Paramedic Base Hospital Data Base, and from this database call reports are generated.

The Central Ambulance Communication Centre (CACC) or dispatch centre also collects data electronically for each call based on the ARIS system. Unlike ARIS, the Paramedic Base Hospital Data Base is freestanding and data is manually entered from the crew's ACR (ambulance call report).

II. AMBULANCE SERVICE CALL VOLUMES

In 1994-95 the Hamilton-Wentworth ambulance services completed 44,256 code 1-4 calls (Table 3). The majority (72.5%) were urgent or emergent calls and the remaining 27.5% were classified as non-urgent/elective.

The volume of ambulance calls has increased by 31% over the past 5 years (Table 4 and Figure 1). All four services experienced growth in volumes, primarily for emergency calls. This has placed more strain on the ability to respond to elective/scheduled calls (see Section V). In response to increasing call volumes in West Hamilton / Dundas, the Flamborough service was augmented in 1991-92 to respond to more calls in those areas.

Geocode locations for 1994 emergency call volumes (code 4 and some code 3) appear in grid form in Table 5a. The location of the hospitals also appear on the grid. Areas of high population growth, such as Stoney Creek, will require further evaluation to determine whether more resources are needed. Stoney Creek does not have its own ambulance base. Table 5b shows the response time at the 90% percentile for all code 4 calls in 1994. These results show that the response time of the ambulance services should be improved to reach provincial standards. Also, the response time to the Stoney Creek area is considerably high. Given the volume of calls noted in Table 5a, there is a need to examine ambulance resources in the Stoney Creek area.

The above data suggests that the traditional locations of ambulance bases will need to be evaluated, as well as other ways to optimize ambulance response times and resource deployment strategies. Volumes and response times for rural areas require further evaluation (e.g. Flamborough).

III. RESPONSE TIME INTERVALS

Ambulance response time refers to the interval between the time the crew is notified to the time the crew arrives at the scene. Average response times for each service in 1991-92 appear in Table 6. This is the last year for which average response times are available through the Ontario Ambulance Service Information System (OASIS). The two Hamilton based services have an average response time of approximately 9 minutes for emergency calls. The Flamborough service, given its larger rural area, had an average response time of 10.8 minutes in 1991-92. The Ministry implemented the ARIS dispatch system in Hamilton-Wentworth in November, 1995. Data will be available for response times on a fractile basis (i.e. percentage) to examine response time intervals.

The Chedoke-McMaster Paramedic Base Hospital maintains a data base of all emergency calls (life or limb threatened), to monitor utilization, outcomes and the performance of advanced life support techniques. Data is manually entered using information from the crew's ambulance call report. Included in the data base are the following response times: dispatch time, crew reaction time and total response time (Tables 7, 8, 9 respectively).

The dispatch time noted in Table 7 is 23% in under one minute. The new provincial benchmark is 100% in under one minute. Similarly, crew activation time or chute time (Table 8) is under one minute 24% of the time. The recommended provincial benchmark is 100% in under one minute. Finally, overall response time, as noted in Table 9, is under nine minutes 61% of the time. The provincial benchmark suggests a response time of under eight minutes, 90% of the time.

These response intervals suggest the need to examine response time intervals more closely and to evaluate a range of system optimization techniques now being developed across Ontario.

IV. ELECTIVE PATIENT TRANSPORT

As noted earlier, about 30% of all ambulance calls are elective, involving the transport of patients between facilities for diagnostic tests, treatments, routine admission or emergency room investigation. Ambulances are also used for the routine discharge of patients to their home residence. A six week survey conducted in Hamilton in 1993 revealed that 1,200 elective transfers took place and that the majority of the transfers were between hospitals, or from the patient's home to hospital (Table 10). The majority of return calls were to the patient's home or a long-term care facility (Table 11). The majority of transfer trips involved routine admission or emergency room investigation (Table 12).

Patient demographics appear in Figure 2. Over 47% of patients are over 75 years of age. Almost all patients required a stretcher and most were stable during transport. An estimated 5 - 10% of patients could have used alternative means of transportation, including family and friends, or specialized vehicles, such as wheelchair accessible vans.

For about 40% of the calls, the ambulance crews in Hamilton experienced delays within the facility (Table 13). These delays related mostly to patient/staff readiness, paperwork and building problems. Patients required an escort in 33% of all transports, and the majority of these were nurse escorts (Table 14).

Because emergency calls take precedent over elective calls, many elective calls are subject to delay. For example, it was determined that crews were late to arrive at the scheduled pick-up time 80% of the time and were late on average, for about 63 minutes. The median was 38 minutes (Table 15). Although a significant portion of the data is missing, patients were late in arriving for their scheduled appointment 74% of the time, an average of 39 minutes late. The median was 27 minutes (Table 16). For return trips only (Table 17), crews were arriving late to return patients 78% of the time and were late, on average, for 78 minutes. The median was 37 minutes late.

In response to these concerns, a local task force was established to develop an elective patient transport (EPT) pilot project. The pilot began in April, 1995. At the end of five months a total of 512 trips were recorded. The EPT virtually eliminated patient and crew delays and no patient appointments were missed. The service is based on 24 hour pre-booking, door-to-door pick-up and drop-off, in-hospital portering and dedicated transfer vehicles (see appendix). The challenge now is to increase the use of the EPT service among the hospitals, as only 5 trips per day are pre-booked, representing only 12% of all elective calls. This will require more intensive marketing, information sharing and staff training.

V. FIREFIGHTER FIRST RESPONSE

The Hamilton-Wentworth ambulance services are supported by a tiered response system, coordinated by ambulance dispatch, that includes firefighters trained in first aid, CPR and automated defibrillation. These first responders initiate early advanced life support until the ambulance crew arrives. In 1994, 32 cardiac patients (21.6%) regained a pulse at the scene following firefighter defibrillation (Table 18). These high success rates are attributable, in large part, to very favourable fire fighter response time intervals in the order of 4 - 5 minutes (Table 19), compared to 8 - 9 minutes for the ambulance service. The addition of ambulance advanced life support and paramedics has shown to benefit the patient.

VI. QUALITATIVE FINDINGS

The critical juncture advisory groups identified other issues concerning pre-hospital care. These relate to the expanded role of the paramedic in hospital care, in critical care transport, and in community based preventive services. The data suggests that paramedics can add value to a range of other health service needs, given that there is ample time between emergency calls to provide these added services.

The second area is the need to improve pre-hospital data systems to improve comprehensive planning, resource deployment and evaluation. Finally, data systems are fragmented among the continuum of providers and linkages are necessary to improve patient care and efficiencies.

Finally, there is a need to review governance of the ambulance service. Key areas in need of attention include standards, analysis of needs, performance benchmarks and evaluation. Leadership and direction should not be left with the pre-hospital care providers alone. These needs are the general findings of the Provincial Auditors Report. One option may include a regional governance model as proposed by the Regional Chairs of Ontario in 1995.

The priorities for pre-hospital care are listed in matrix format in the appendix.

APPENDICES

and

EXHIBITS

BACKGROUND PAPER:
LAND AMBULANCE SERVICES IN
HAMILTON-WENTWORTH
Summary of Resources and Utilization

INDEX

APPENDICES

Page #

Table 1 Ambulance Service Resources Hamilton-Wentworth, 1994-95 I

Table 2 Ambulance / Hospital Interface Protocols for Critical Care Site Selection ii

Table 3 Ambulance Services Utilization Hamilton-Wentworth, 1994-95 iii

Table 4 Ambulance Utilization, Hamilton-Wentworth Five Year Trends Code 1 - 4 iii

Figure 1 Ambulance Utilization Five Year Trends Code 1 - 4, Hamilton-Wentworth iv

Table 5a All Calls Dispatched Code 4, 1994 v

Table 5b 90% Fractile Response Times

Table 6 Average Response Times By Service, 1991 - 92 vi

Table 7 1994 Emergency Response Time, All Services Dispatch Response Time Call Received to Crew Notified[1] vi

Table 8 1994 Emergency Response Time, All Services Crew Notified to Crew Mobile (Shute Time)[1] vii

Table 9 1994 Emergency Response Time, All Services Call Received to Arrived at Scene vii

Table 10 Pick-up and Destination Facility for Initial Transfer Trip Hamilton-Wentworth Dispatch Survey (six weeks) viii

Table 11 Pick-up and Destination Facility for Return Trip Only Hamilton-Wentworth Dispatch Survey (six weeks) ix

Table 12 Hamilton Dispatch Centre (six week survey) Reasons for Elective Patient Transport 631 Transfer Trips x

Figure 2 Age Distribution of Elective Transfers - Six week crew survey, October 1993 xi

Table 13 Types of Delays in Transport Experienced by Hamilton/Flamborough Ambulance Crews, Code 1 - 2 (six week crew survey, 1993) xii

Table 14 Escort Requirements for 631 Elective Transfer Patients Hamilton-Wentworth Dispatch (six week survey) xiii

Table 15 Hamilton-Wentworth Dispatch Time Interval Analysis Initial Transfer Trip (six week survey, October - November, 1993) xiii

Table 16 Hamilton-Wentworth Dispatch Time Interval Analysis (six week survey, October - November, 1993) xiv

Table 17 Hamilton-Wentworth Dispatch Time Interval Analysis Return Trips Only (six week survey, October - November, 1993) xiv

Hamilton-Wentworth Fire Department's Automatic External Defibrillation Program (94 Year):

Table 18 Frequency of Calls Fire Department xv

Table 19 Average Response Times, Fire Departments xv

EXHIBITS

Exhibit 1 Pre-hospital Current Picture: The Issues xvi

Exhibit 2 Pre-hospital Options Impact on Patient Care xvii

Exhibit 3 Hamilton-Wentworth Elective Patient Transfer System (ETS) xviii

TABLE 1

AMBULANCE SERVICE RESOURCES
HAMILTON-WENTWORTH, 1994-95

Service Operator	Vehicles[2]	Staffing		Paramedics[3]		Ambulance Base	Budget 95 - 96	KM Travelled 94 - 95
		FT	PT	FT	PT			
Fleetwood[1]	8	43	13	--	--	3	$3,000,817	174,669
Superior[1]	10	57	17	13	1	4	$4,002,065	293,000
Ancaster	1	6	--	--	--	1	$ 392,682	37,000
Flamborough	2	12	7	--	--	2	$1,019,631	99,400
Totals	21	118	37	13	1	10	$8,415,195	604,069

[1] Hamilton

[2] Peak Staffing

[3] Full Service - most remaining EMCA's are BLS-D (defibrillation)

Source: Ministry of Health

TABLE 2

AMBULANCE / HOSPITAL INTERFACE PROTOCOLS FOR CRITICAL CARE SITE SELECTION*

PEDIATRIC PATIENT DESTINATION	
• Inhalation injury	Hamilton General
• Multiple trauma	McMaster Medical Centre
• Major burn	Hamilton General
• Head / Spinal injury	McMaster Medical Centre
• Psychiatric Emergency	St. Joseph's
• General admission	McMaster or St. Joseph's
• Pre-arrangement requested	as arranged
ADULT TRAUMA PATIENT	
• Inhalation injury	Hamilton General
• Multiple trauma, major burn, head and spinal injury	Hamilton General (St. Joseph's and MUMC as back-up)
• Obvious fracture or other trauma	any hospital
ADULT NON-TRAUMA **	
• ED status, bed status, regional programs or pre-arrangements	nearest appropriate hospital
• Psychiatric emergencies	St. Joseph's
• Dialysis emergencies	St. Joseph's

* patients are transported to nearest appropriate hospital not on re-direct consideration or critical care by-pass. Exceptions include airway problems, pregnancy, children (<16 years), pre-arrangements

** primary determinants are ED status, pre-arrangements

Source: Chedoke-McMaster Hospitals Paramedic Base Hospital Program

TABLE 3

AMBULANCE SERVICES UTILIZATION HAMILTON-WENTWORTH, 1994 - 95

	Code 1 - 2[1]	Code 3 - 4[2]	Code 5 - 9[3]	Total
Fleetwood	5,646	10,188	2,160	17,994
Superior	4,455	18,158	3,345	25,958
Ancaster	353	1, 108	271	1,732
Flamborough	1,717	2,631	828	5,176
Total	12,171	32,085	6,604	50,860

[1] Code 1 - 2 non-urgent / elective
[2] Code 3 - 4 urgent / emergent
[3] Code 5 - 9 no transport, stand-by, maintenance
Source: Ministry of Health

TABLE 4

AMBULANCE UTILIZATION, HAMILTON-WENTWORTH FIVE YEAR TRENDS CODE 1 - 4

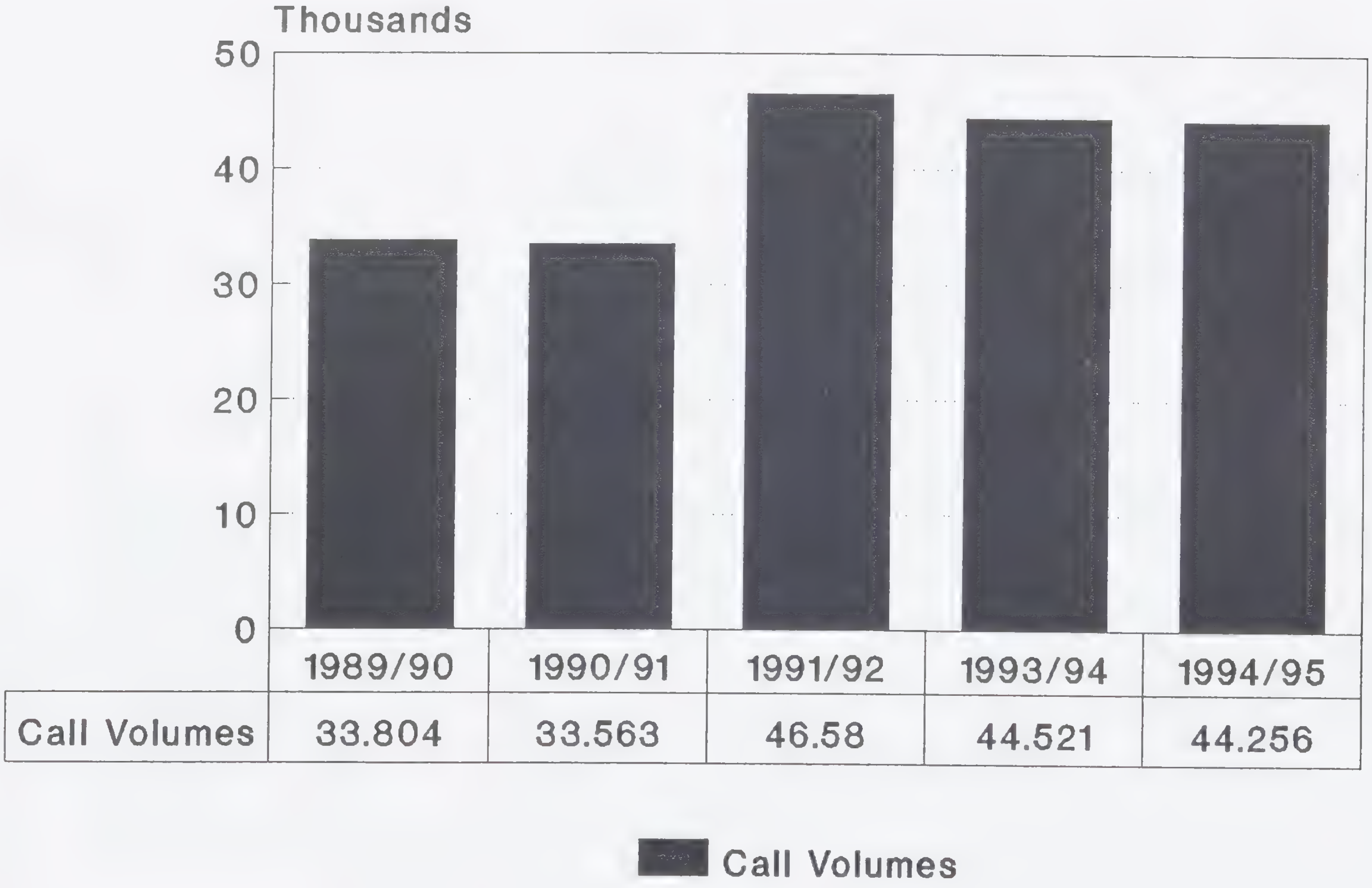
	1989/90	1990/91	1991/92	1993/94	1994/95	% CHANGE
Fleetwood	14,575	14,857	17,478	15,605	15,834	+8.6
Superior	16,624	16,107	23,729	22,665	22,613	+36.0
Ancaster	944	965	1,811	1,452	1,461	+54.8
Flamborough	1,661	1,634	3,562	4,799	4,348	+161.8
TOTAL	33,804	33,563	46,580	44,521	44,256	+30.9

Source: Ministry of Health
Comments: Increase attributed to more emergency calls
Concern Stoney Creek has no local ambulance base
Flamborough increased service to Dundas and West Hamilton in 1991/92

FIGURE 1

Ambulance Utilization Five Year Trends

Code 1-4, Hamilton-Wentworth

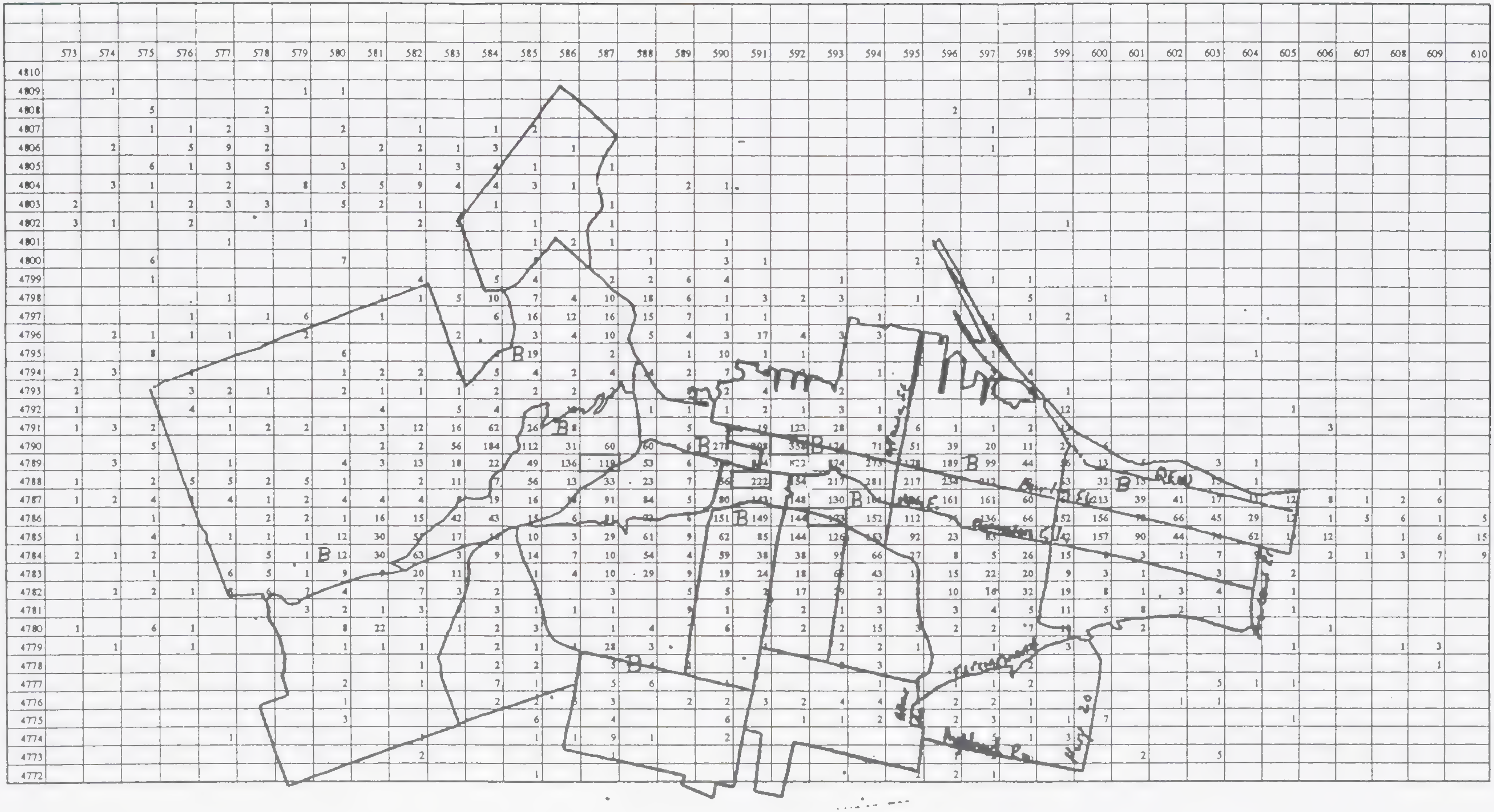


	1989/90	1990/91	1991/92	1993/94	1994/95
Call Volumes	33.804	33.563	46.58	44.521	44.256

Source: Ministry of Health

TABLE 5a

ALL CALLS DISPATCHED CODE 4 1994



☐ = Hospital

B = Ambulance Base

TABLE 5b

CALL RECEIVED TO PATIENT CONTACT (MIN.) 90% FRACTILE RESPONSE FOR DISPATCHED LIFE-THREATENING CALL (40) 1994

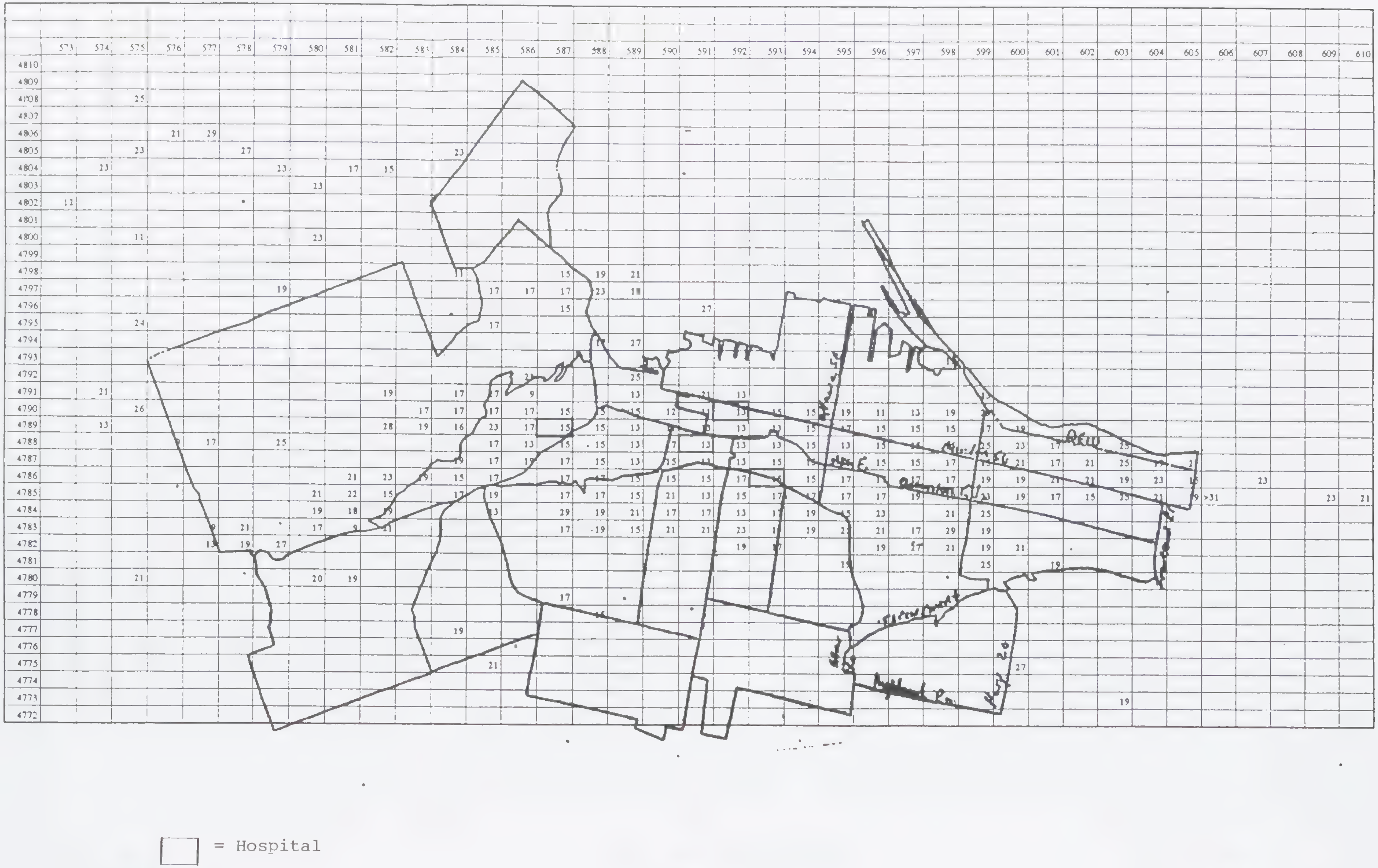


TABLE 6

AVERAGE RESPONSE TIMES
By Service, 1991 - 92

	Total Calls	Average Response Time [1]	Call Demand [2]
Fleetwood	19,386	9.1 minutes	2.0
Superior	26,446	8.9 minutes	2.7
Ancaster	1,988	9.3 minutes	.2
Flamborough	4,100	10.8 minutes	.4

[1] Emergency Calls only (Code 3 - 4)
[2] Calls per hour
Source: OASIS Annual Report, Ministry of Health

TABLE 7

1994 EMERGENCY RESPONSE TIME, ALL SERVICES
DISPATCH RESPONSE TIME
CALL RECEIVED TO CREW NOTIFIED[1]

Time Interval	Frequency	%	Cumulative %
< 1 minute	1,592	22.68	22.68
1 < 2 minute	3,552	50.60	73.28
2 < 3 minutes	1,182	16.84	90.12
3 < 4 minutes	300	4.27	94.39
> 4 minutes	393	5.60	---
Total	7,019	100.00	---

[1] Code 4 "Life Threatening" Calls Only

TABLE 8

1994 EMERGENCY RESPONSE TIME, ALL SERVICES CREW NOTIFIED TO CREW MOBILE (SHUTE TIME)[1]

Time Interval	Frequency	%	Cumulative %
< 1 minute	1,587	23.89	23.89
1 < 2 minute	2,809	42.29	66.18
2 < 3 minutes	1,869	28.14	94.32
3 < 4 minutes	281	4.23	98.55
> 4 minutes	96	1.44	100.00
Total	6,642	100.00	---

[1] Code 4 "Life Threatening" Calls Only

TABLE 9

1994 EMERGENCY RESPONSE TIME, ALL SERVICES CALL RECEIVED TO ARRIVED AT SCENE

Time Interval	**Frequency**	**%**	**Cumulative %**
< 1 minute	24	.34	.34
1 < 3 minute	126	1.78	2.12
3 < 5 minutes	912	13.03	15.15
5 < 7 minutes	1,726	24.65	39.80
7 < 9 minutes	1,499	21.41	61.21
9 < 11 minutes	1,017	14.53	75.74
> 11 minutes	1,697	24.24	100.00
Total	7,001	100.00	---

[1] Code 4 "Life Threatening" Calls Only

TABLE 10

PICK-UP AND DESTINATION FACILITY FOR INITIAL TRANSFER TRIP

HAMILTON-WENTWORTH DISPATCH SURVEY (six weeks)

Facility Type	Pick-up Facility		Destination Facility	
	#	%	#	%
Acute Hospital	336	53.2	470	74.4
Patient's Home	166	26.3	12	1.9
Nursing Home	29	4.6	13	2.1
Home-for-the-Aged	10	1.6	2	.3
Rest Home	31	4.9	14	2.2
Chronic Care/Unit	19	3.0	21	3.3
Other Community Facility	30	4.8	8	1.3
Cancer Clinic	4	.6	54	8.6
Psychiatric Hospital/Unit	0	0	18	2.9
Unknown	6	1.0	18	2.9
TOTAL	631	100	631	100

Source: Central West Elective Patient Transport Study, 1995

TABLE 11

PICK-UP AND DESTINATION FACILITY FOR RETURN TRIP ONLY

HAMILTON-WENTWORTH DISPATCH SURVEY

Six Weeks (Oct. - Nov. 1993)

Facility Type	Pick-up Facility		Destination Facility	
	#	%	#	%
Acute Hospital	490	88.0	208	38.2
Cancer Clinic	57	10.5	0	0
Other Community Facility	0	0	12	2.2
Patient's Home	4	.7	140	25.7
Nursing Home	1	.2	69	12.7
Chronic Care Hospital/Unit	0	0	21	3.9
Home-for-the-Aged	1	.2	25	4.6
Rest Home	1	.2	59	10.8
Psychiatric Hospital/Unit	1	.2	5	.9
Unknown	0	0	6	1.1
TOTAL	545	100	545	100

Source: Central West EHS Advisory Committee

TABLE 12

HAMILTON DISPATCH CENTRE
SIX WEEK SURVEY (Oct. - Nov. 1993)

REASONS FOR ELECTIVE PATIENT TRANSPORT
631 TRANSFER TRIPS

TRANSFER TYPE	#	%
Admission	188	29.8
ER Investigation	141	22.3
Other	70	11.1
Cancer Treatment	55	8.7
Return	42	6.7
X-ray	32	5.1
Discharge	31	4.9
Heart I.U.	26	4.1
C.T. Scan	15	2.4
Dialysis	12	1.9
Unknown	9	1.4
Nuclear Medicine	8	1.3
Doppler Flow	2	.3
TOTAL	631	100.0

Source: Central West EHS Advisory Committee

FIGURE 2

Age Distribution of Elective Transfers
Six Week Crew Survey, October 1993

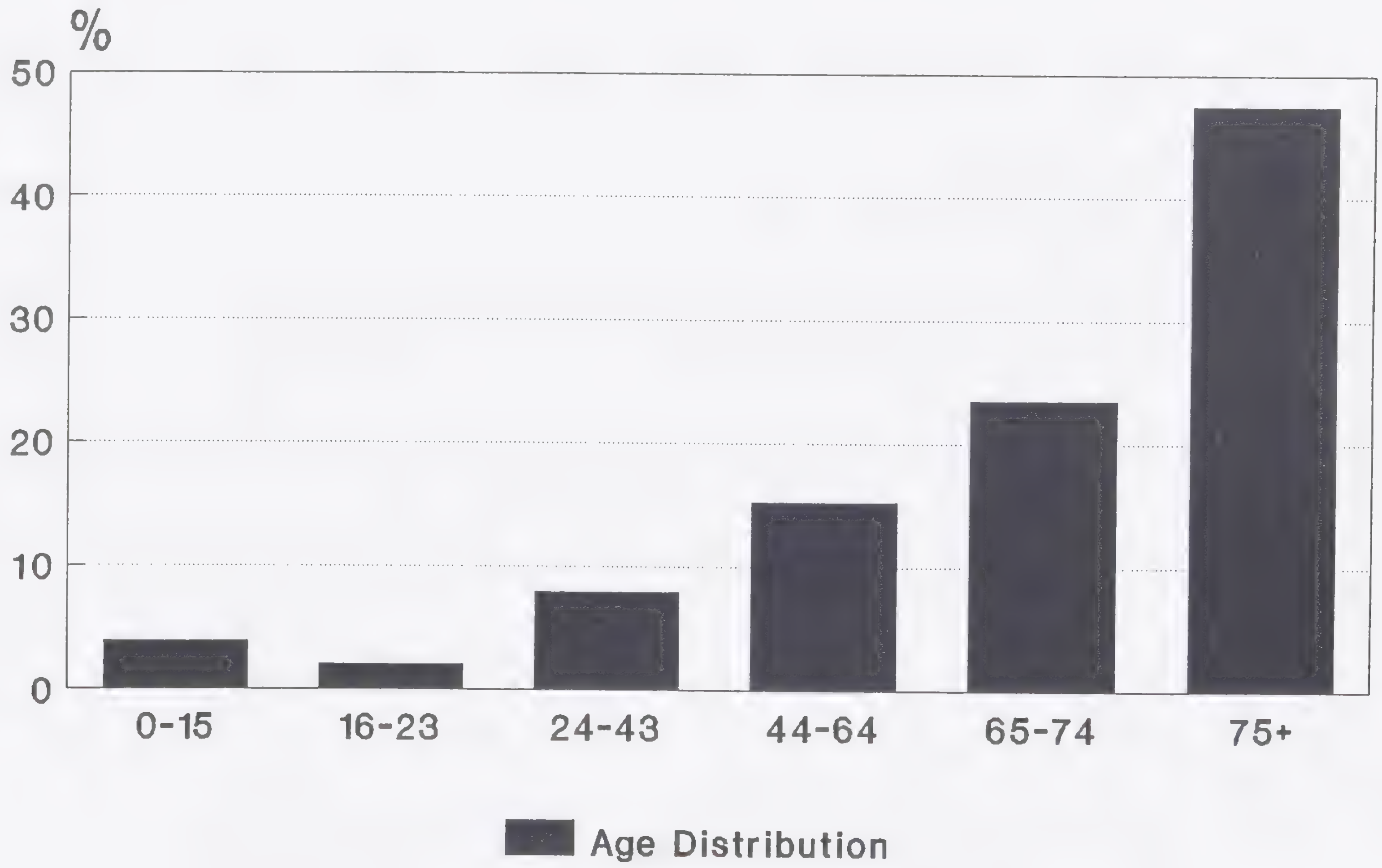


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TABLE 13

TYPES OF DELAYS IN TRANSPORT EXPERIENCED BY HAMILTON\FLAMBOROUGH AMBULANCE CREWS, CODE 1 - 2
SIX WEEK CREW SURVEY, 1993

TYPE OF DELAY	#	%
No delay	371	61.2
Patient not ready	67	11.1
Other delay	53	8.7
Building problem (doors, elevators, stairs)	45	7.4
PT paperwork not ready	37	6.1
Problem finding patient	20	3.3
PT condition not as dispatched	7	1.2
Traffic conditions	4	.7
Vehicle/Equipment failure	2	.3
TOTAL	606	100.00

Source: Central West EHS Advisory Committee

TABLE 14

ESCORT REQUIREMENTS FOR 631 ELECTIVE TRANSFER PATIENTS HAMILTON-WENTWORTH DISPATCH (6 week survey)

ESCORT TYPE	#	%
Ambulance Attendant	422	66.9
Nurse	140	22.2
Family	36	5.7
Unknown	15	2.4
Other	8	1.3
Registered Nursing Assistant	7	1.1
Physician	2	.3
Respiratory Technologist	1	.2
TOTAL	631	100.0

Source: Central West EHS Advisory Committee

TABLE 15

HAMILTON-WENTWORTH DISPATCH

Six Week Survey (Oct. - Nov. 1993)

TIME INTERVAL ANALYSIS INITIAL TRANSFER TRIP

ARRIVED AT SCHEDULED PICK-UP TIME	#	%
> 4 hours late	40	6.8
2 - 4 hours late	60	10.3
1 - 2 hours late	101	17.3
< 1 hour late	266	45.5
On time/early < 1 hour	110	18.8
Early > 1 hour	8	1.4
TOTAL	585	100.0

Source: Central West EHS Advisory Committee

- Average Minutes late = 62.9 minutes
- Median Minutes late = 38.0 minutes
- Percentile late = 79.8% of the time late

TABLE 16

HAMILTON-WENTWORTH DISPATCH

Six Week Survey (Oct. - Nov. 1993)

TIME INTERVAL ANALYSIS

ARRIVED AT SCHEDULED APPOINTMENT TIME	#	%
> 4 hours late	9	2.6
2 - 4 hours late	15	4.4
1 - 2 hours late	53	15.5
< 1 hour late	178	52.0
On time/early < 1 hour	84	24.6
Early > 1 hour	3	.9
TOTAL	342	100.0

Source: Central West EHS Advisory Committee
* 289 Missing Cases

- Average Minutes late = 38.7 minutes
- Median Minutes late = 27.0 minutes
- Percentile late = 74.5% late
- Average elapsed time at facility = 16 minutes
- Average elapsed time at destination = 21.8 minutes

TABLE 17

HAMILTON-WENTWORTH DISPATCH

Six Week Survey (Oct. - Nov. 1993)

TIME INTERVAL ANALYSIS RETURN TRIPS ONLY

ARRIVED TO PICK UP	#	%
> 4 hours late	45	9.0
2 - 4 hours late	71	14.3
1 - 2 hours late	85	17.1
< 1 hour late	190	38.2
On time/early < 1 hour	102	20.5
Early > 1 hour	5	1.0
TOTAL	498	100.0

Source: Central West EHS Advisory Committee
* 47 Missing Cases

- Average Minutes late = 77.8 minutes
- Median Minutes late = 37.0 minutes
- Percentile late = 78.5% late

TABLE 18

HAMILTON-WENTWORTH FIRE DEPARTMENT'S AUTOMATIC EXTERNAL DEFIBRILLATION PROGRAM (94 Year)

(Rapid Zap Program)

Frequency of Calls Fire Department

	Fire Department			
	Stoney Creek	Hamilton	Glanbrook	Total
# of VSA calls	17	126	5	148
# of Patients Shocked at Scene	6	62	3	71
# Regained Pulse at Scene	1	30	1	32
# of Deceased Patients	16	96	4	116
% Saved	5.9%	23.8%	20.0%	21.6%

TABLE 19

Average Response Times, Fire Departments (Minutes)

Response Time Interval	**Stoney Creek**	**Hamilton**	**Glanbrook**
Dispatch Notified to Crew Notified	0	0.08	
Dispatch Notified to Arrive Scene	4.29	3.58	10
Arrived Scene to Patient Contact	0.94	0.93	0.5
Patient Contact to First Analysis	1	1.28	
Arrive Scene to First Analysis	1.94	2.21	2
Dispatch Notified to First Analysis	6.23	5.85	12.5

PRE-HOSPITAL
CURRENT PICTURE: THE ISSUES

CURRENT PICTURE - INVENTORY

METHODOLOGY:

SWOT Checklist - Strengths / Weaknesses
CJAG - Critical Juncture Advisory Groups
Data - Utilization

PRIORITIES:

System Optimization - Response Time
Expansion of ALS (Paramedics)
Community - Based Care / Integration
Data Systems / Telecommunications
Inter-Hospital Transfer System
Develop Performance Standards
Quality Assurance
Governance
Primary Prevention
Resource Management / Deployment

PRE-HOSPITAL OPTIONS IMPACT ON PATIENT CARE	ACCESSIBILITY	APPROPRIATENESS (Quality/Need)	AFFORDABLE - COST EFFECTIVE	INTEGRATION / COORDINATION
	Point of view of Patients, Attendants, Government			
• Community Care Role	+ 0 -	+ 0 -	+ 0 -	+ 0 -
• Data Systems / Links / Comprehensive System	+ 0 -	+ 0 -	+ 0 -	+ 0 -
• System Optimization	+ 0 -	+ 0 -	+ 0 -	+ 0 -
• Elective Patient Transport System	+ 0 -	+ 0 -	+ 0 -	+ 0 -
• Pre-Hospital Resource Deployment Planning	+ 0 -	+ 0 -	+ 0 -	+ 0 -
• Performance Standards	+ 0 -	+ 0 -	+ 0 -	+ 0 -
• Expansion of ALS	+ 0 -	+ 0 -	+ 0 -	+ 0 -
• Governance Structure	+ 0 -	+ 0 -	+ 0 -	+ 0 -

SCALE: + = positive 0 = neutral - = negative

Escort Standards

- An escort is an individual who accompanies the patient during transport from one facility to another.

- Escort options include:
  - porter
  - health care aide
  - RPN
  - RN
  - RT
  - ambulance attendant
  - physician

Note: Family members or friends may escort:
  - self care patients, room permitting in the ambulance
  - minimum care patients on the recommendation of the health facility, room permitting in the ambulance.

- The need and level of escort required is determined by the degree of care needed by the patient as follows:
  - **no escort** for self care patients who are fully independent with personal or medical needs
  - **porter, aide,** or **ambulance attendant** for minimum care patients who can generally manage but may need some assistance with functional activities

  - **RN, RPN or ambulance attendant** for basic care patients who have some interventions or therapies performed by a third party. These interventions do not include IV drug therapy or invasive procedures.

Note: IV for fluid replacement (200 ml or less/hr and no drugs) or keep the vein open is acceptable for this level of escort.

  - **RN, RT, physician** for enhanced or advanced care patients who require IV drug therapy, I.M. medications, assistance in maintaining an airway, invasive procedures, cardiac monitoring or constant life support during transport. **This type of patient should be transferred in the regular ambulance service.**

Note: Receiving facilities may have their own policies for patient accompaniment during the patient's stay at their facility.

Luggage:

FOR MORE INFORMATION CONTACT:

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Bev Robertson	527-0271 X6222
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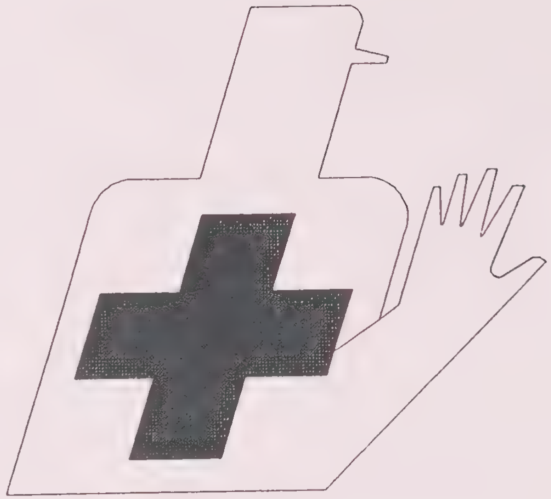
St. Joseph's Hospital	
Margret Comack	522-1155 X3690
St. Peter's Hospital	
Jeanne Hay	549-6525 X327

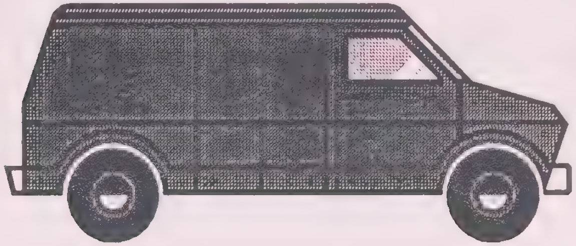


HAMILTON WENTWORTH ELECTIVE PATIENT TRANSFER SYSTEM (ETS)

Hamilton Wentworth Elective Patient Transfer System (ETS)

The Elective Transfer System (ETS) is designed as a pilot project to provide prebooked, interfacility stretcher transportation between Chedoke McMaster, Hamilton Regional Cancer Centre, Hamilton Civic, St. Joseph's and St. Peter's hospitals. **Patients must require stretcher transport and be assessed as stable.** Escorts may accompany the patient as necessary (see escort standards). Patients who are able to transfer in and out of a wheelchair will use other means of transportation (see medical transportation decision matrix).

This project does not include transfers to home or long term care facilities at this time.



System features:

- Prebooked, interfacility stretcher transfers
- Dedicated vehicles and staff
- ETS booking coordinator at CACC (ambulance dispatch)
- Door to door pick up and drop off service
- Designated transfer points at each facility
- Escort standards
- Utilizes a medical transportation decision matrix

Booking: CACC 574-1414

- Call CACC and ask for ETS booking coordinator
- Requests accepted Monday to Friday, 0730-1800 hours
- Monday transfers must be prebooked by 1800 hours on the previous Friday. Sunday.
- Transfers must be prebooked 24-48 hours in advance
- Requests accepted up to 1800 hours the day before the scheduled appointment
- Complete the hot pink ETS **booking form**, place at front of patient chart and/or send with patient
- Complete the pink Elective Patient Transfer System **transfer form** and send with the patient

Procedure for Transfer

Patients must be ready for porter pick up on the clinical unit at the scheduled time, normally 20 minutes prior to ambulance scheduled arrival at the facility transfer point (near the door). The ambulance will not wait more than 10 minutes.

Patient will be taken by hospital stretcher to and from the designated transfer point and transferred on or off an ambulance stretcher for the trip.

Unexpected delays must be communicated directly to the ETS booking coordinator. This may mean that the patient transfer is diverted to the regular ambulance system.

Acute Care Working Group Report To the Health Action Task Force

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Hamilton-Wentworth
District Health Council

March, 1996

Please Copy

Table of Contents

Section **Page**

1.0 INTRODUCTION 1

2.0 THE ACUTE CARE WORKING GROUP 6

3.0 HOSPITALS TODAY 9

4.0 ANALYSIS OF THE REQUIREMENTS FOR ACUTE CARE HOSPITAL SERVICES IN HAMILTON-WENTWORTH 12

4.1 ROLE OF THE ACUTE CARE HOSPITAL IN HAMILTON-WENTWORTH 12
4.2. PATIENT SERVICE GROUPS AND LEVELS OF CARE 17
4.3 POPULATION NEEDS FOR ACUTE CARE HOSPITAL SERVICES 19
4.4 HOSPITAL PERFORMANCE TARGETS 25
4.5 SIZING THE SYSTEM: PROJECTED UTILIZATION AND SIZE OF HAMILTON-WENTWORTH'S HOSPITAL SYSTEM IN 2000 30
4.6 CONFIGURING THE HOSPITAL SYSTEM 34
4.7 COST IMPLICATIONS OF RESTRUCTURING 41

5.0 IMPLEMENTATION CONSIDERATIONS 44

1.0 Introduction

Almost half a million people live in Hamilton-Wentworth. This is a healthy, economically diverse and prosperous community which has gone through rapid industrial change, including major layoffs and periods of high levels of unemployment. From the perspective of Hamilton-Wentworth's acute care hospitals, the district is characterized by significant community interest and involvement in health services, a strong interest in public well being and health and an infrastructure of high quality health services.

Health Care Facilities and Providers

Hamilton-Wentworth currently is served well by its health care facilities and providers. The resources supported by the Ministry of Health include:

- four acute hospital sites operated by three hospital corporations;
- one regional cancer treatment centre;
- one chronic care hospital;
- one provincial psychiatric hospital;
- five homes for the aged;
- 15 nursing homes;
- eight homes for special care;
- mental health group homes;
- two residential detox treatment facilities;
- two residences for people with physical disabilities;
- three community health centres;
- Department of Public Health;
- Home Care Program and Placement Coordination Services operated under the auspices of the Victorian Order of Nurses;
- many community-based agencies providing community health care; and
- 1,065 practicing physicians, approximately 5,000 registered nurses as well as other health professionals.
- Also, the Ministry of Health funds clinical education, health resources development, planning and a range of clinical applied operational and other health research. In addition, there are related services funded by the Ministry of Community and Social Services.

These health services include one of the province's five academic health science centres. The health science centre incorporates the university and each of the acute care hospitals, the regional cancer centre and the chronic and psychiatric hospitals in Hamilton (along with many non-hospital providers of care). The health science centre has grown and evolved to incorporate the service, teaching and research at each of the hospitals and the University. Each of the hospitals is a critical component of an integrated whole. This integration has strengthened Hamilton-Wentworth's capacity to provide high quality hospital and health services to its residents.

Changing Needs and Services

Over the past years, changes have been taking place in the population, the provision of health services and in provincial funding which have required each community in Ontario to examine its needs for health care services and how it can best use its resources to meet those needs. These changes are well known and can be listed briefly.

- Demographic changes, including population growth and population aging, have and will continue to generate increasing needs for services and changes in the types of services required to meet these needs.
- Most of the Region's health services are concentrated in Hamilton, but significant population growth is taking place in Ancaster, Flamborough, Glanbrook and Stoney Creek and hospital and health services will need to adjust to respond to the needs of these growing populations. Also, neighbouring Halton is one of the fastest growing regions in Canada, and a significant number of Halton residents already come to Hamilton-Wentworth for health services.
- Advances in health care therapies, surgical techniques, medications and medical technology have greatly increased the ability and success of health care providers in helping people to deal with their illness or injury and to improve their chances of survival and quality of life. These improvements greatly improve our individual well being, and, over the long term, lead to increased productivity and economic benefit for the community.
- Advances in health techniques and technologies are also changing the way we use hospitals and the characteristics of hospital care. These changes include more day surgery,

faster recovery and shorter hospital stays, with a resulting decline in the use of and need for hospital beds. For example, day diagnostic procedures and surgery now represents 39% of all cases[*] treated in Hamilton hospitals. As a result, a smaller proportion of patients are being admitted to hospital as inpatients for their care. However, although fewer patients are being admitted, those that are tend to be the most ill, requiring complex, multi-disciplinary, multi-technology and expensive care.

- To facilitate the success of these changes in approaches to hospital care including alternatives to admission, ambulatory surgery and earlier discharge from hospital, new investments in hospital services and concomitant increased funding in the continuum of care beyond the hospital are required.
- However, constrained and reduced provincial funding for hospitals and other health services are weakening the ability of the current configuration of hospital and community health services to continue to meet the needs of the population effectively or to be able to respond to escalating needs in the future. For example, changes in hospital programs and services, such as reductions in length of inpatient stay and increases in ambulatory surgery, are no longer being balanced adequately by increases in the capacity of community-based services to supply the necessary support services.

Hospitals and other health services in Hamilton-Wentworth, and the communities they serve need to re-think and reorganize how they provide services individually and in conjunction with each other so as to best use the declining resources to meet changing and increasing needs for health services.

Collaboration

The health providers in Hamilton-Wentworth have a long and enviable history of working together and adapting to respond to changing circumstances: to improve the health care services they provide and to improve the health of the communities they serve. Over the past 20 years, a number of changes have been put in place across the Region to enhance coordination and collaboration among health providers and to improve the quality of services: for example, through the Joint Action Committee, the Joint Liaison Committee, the Health Services Advisory Committee and the District Health Council.

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[*] Excluding neonates.

The health care providers in Hamilton-Wentworth have successfully implemented regional programs for acute care services offered by different providers in different sites across the district; for example in oncology, cardiovascular, gastroenterology, acquired brain injury, trauma, critical care and laboratory medicine. These programs have made progress and continue to work towards improving collaboration among family physicians and other primary care providers, local services and others and towards coordinating health services with teaching and research.

The providers have had major successes in rationalizing and focusing their resources for psychiatric care. Also the initiatives of the Regional Geriatric Program and the individual hospitals have led to significant, breakthrough advances in chronic care in Hamilton.

Health Action Task Force

But more needs to be done. The next step for Hamilton-Wentworth is to build upon the foundation and strengths of past efforts and create a regional health care *system* for planning and management of health services, including acute care hospital services and programs.

In setting about to develop a Comprehensive Health Care Plan for the Region, the Health Action Task Force articulated the following Vision:

> *"We see a community-supported comprehensive plan to guide health care system planning of Hamilton-Wentworth, which makes best use of all resources while recognizing that the well-being of its people requires a balance of health promotion, disease prevention and care."*

The Health Action Task Force also established Principles of a Comprehensive Health Care Plan:

- Everyone has the right to live in a healthy environment.
- Everyone has the right to accessible, available, and appropriate health care.
- Everyone has the right to be involved in the design and development of a comprehensive health care plan.

- A health system continually responds to the needs of the community.
- A health system balances the rights and responsibilities of the individual and the community.
- A health system is responsible for its actions and results.
- A health system promotes excellence in service, education, and research.

The Health Action Task Force directed its work towards the establishment of an integrated health care system in which all providers coordinate their services to provide high quality care along a continuum of care responsive to public needs; and in which the health care providers are accountable for their use of resources, the quality and outcomes of the care they provide and the health of the population.

Four members of the Health Action Task Force sat on the Acute Care Working Group, and were able to ensure that the Working Group incorporated into its considerations this Vision and the General Principles as they were being developed by the Health Action Task Force.

2.0 The Acute Care Working Group

The Acute Care Working Group[*] was established by the Health Action Task Force in October 1995. Its mandate was:

> *"To review and assess all hospital-based acute care services and hospital physical facilities in Hamilton-Wentworth and to make recommendations concerning the number of hospital sites and the programs and services for each site, in order to meet the future needs of Hamilton-Wentworth residents, and its referral population, for hospital-based services."*

Objectives The Working Group's specific objectives included:

- To review and assess current hospital programs and services, and the ways hospitals interact with one another and with other health and health-related services in Hamilton-Wentworth.
- To identify opportunities for reducing duplication in the range of administrative, clinical and support services among hospitals.
- To conduct a general physical facilities overview in order to assess the physical limitations and expansion potential of all hospital areas.
- To make recommendations concerning the number of hospital sites and the programs and services for each site.
- To identify the potential impact of proposed changes in the community and Region, with respect to patient utilization, human resources, fiscal implications, community services, and academic excellence.
- To identify key issues and challenges to successful implementation of the recommendations.

The Acute Care Working Group's scope included acute care, primarily in hospitals, but also in non-institutional, community settings. For example, Home Care in Hamilton-Wentworth provides a "quick response" program for short-term assessment and treatment to help people avoid emergency admissions to acute care, and to help them cope with acute intercurrent events after hospital discharge so that they do not need to be readmitted. One of the objectives of the Working Group was to develop a plan to weave acute care hospital services together with these other forms of acute care into a stronger continuum of care and services for Hamilton-Wentworth.

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[*] Members of the Acute Care Working Group are listed in Appendix 1.

Process and Consultation

The Acute Care Working Group met frequently - almost weekly, and more often as required - from October through February 1996. In January the services of the HayGroup were retained to assist in the definition of population needs and in determining the required size and configuration of hospital services to meet those needs.

The Working Group received group and individual presentations and written comments from stakeholders, providers and consumers directly and through the delegations received by the Task Force. Working Group members met with providers, stakeholders and consumers, visited the acute care sites, and reviewed the relevant literature and data (for a list of presentations and information sources, see Appendix 3).

The following major themes emerged from these discussions in relation to acute care:

- Preserve the accessibility and availability of the health care system;
- Shift the emphasis from institutional to adequately funded and supported community-based care;
- Improve coordination among health care providers and institutions to reduce duplications, redundancies, overlaps, gaps and weaknesses, and improve quality and efficiency of service delivery to the consumer;
- Improve utilization and efficiencies of acute care services while maintaining and improving quality of care; and
- Seize opportunities created by restructuring to enhance services and programs.

Goals for a Hospital System in Hamilton-Wentworth

Based on both the advice received in these consultations and its own deliberations, the Acute Care Working Group established a set of goals for a restructured system of hospitals for Hamilton-Wentworth. The Working Group agreed that the restructured hospital system should:

- provide a coordinated, interactive network of hospital organizations focused on meeting the needs of their communities and their patients today and in the future,
- ensure high quality, cost-effective, affordable patient-focused care,
- serve the best interests of its population by balancing resources to match local patient needs with the need to develop critical mass to ensure quality and efficiency,
- be compatible and consistent with the restructuring or rebalancing of the integrated health care system so as to be an integral part of a seamless network of health services,
- preserve and enhance the teaching and research dimensions of the hospital sector and the overall health service sector.

Hospitals Within a Hospital System

Within the restructured hospital system, the individual hospital would:

- develop and foster a culture of supporting a system-wide approach to the continuum of care rather than an allegiance to one institution over another;
- provide a work environment which encourages excellence in acute care, teaching and research and an on-going process to improve quality;
- provide a rewarding work environment;
- provide a flexible work environment to meet changing community needs;
- encourage organizational strength and stability; and
- encourage stakeholders to assist in solution development.

3.0 Hospitals Today

Hamilton-Wentworth has three acute care hospital corporations - The Hamilton Civic Hospitals, Chedoke-McMaster Hospital and St. Joseph's Hospital - with facilities on five different sites. The acute care hospitals are also part of a larger hospital system that includes St. Peter's Hospital, a chronic care hospital, and the Hamilton Psychiatric Hospital. All seven hospital sites have teaching programs linked to the Faculty of Health Sciences at McMaster University, other departments at the University and Mohawk College.

The Hamilton Civic Hospitals

The Hamilton Civic Hospitals include the Henderson Division (on Concession Street) and the General Division (on Barton Street):

- The Concession site (Henderson Division) is located on the central mountain. It is a full service hospital that provides general and emergency services, and is linked with the Hamilton Regional Cancer Centre, which is on the same site. The site focuses on cancer and supportive secondary services, joint reconstruction and women's health.
- The Barton Site (General Division) is located in an industrial are in the centre of the city. The site focuses on tertiary referral and supporting secondary services and is the regional referral centre for burns, multiple trauma, adult neurosurgery and cardiovascular/thoracic surgery.

Chedoke-McMaster Hospitals

Chedoke-McMaster Hospitals includes hospitals at the McMaster University site and the Chedoke site:

- The McMaster University site (MUMC Division) is located in the west end of Hamilton. The site focuses on providing acute secondary hospital care. It is the Children's Hospital for Central West. The site has the only tertiary level neonatal intensive care unit in Central West. It also offers high risk obstetrical care and tertiary gastro-intestinal and haematological services and quaternary care related to bone marrow transplants.
- The Chedoke site is located on the west mountain. Although is has an urgent care centre, it focuses on specialized rehabilitation and the child development component of the Children's Hospital. The site has an acquired brain injury program and the only program in the

Region for spinal injury. It has been designated as the host hospital for the Regional Geriatric Program and provides medical and psychiatric management of elderly patients with acute problems.

St. Joseph's Hospital

St. Joseph's Hospital has one acute care facility on Charlton Street in downtown Hamilton. It is a Catholic hospital, owned and operated by the Sisters of St. Joseph of Hamilton, and committed to the Catholic mission and philosophy of care. The site provides a comprehensive range of general and specialized services, as well as high acuity medical and surgical programs that support tertiary responsibilities in cardiovascular, respiratory, nephrological, urological, otolaryngolical, and musculoskeletal services. It also offers quaternary services related to radical head and neck surgery and renal transplantation. St. Joseph's also operates a community health centre, located in the east end of Hamilton, on the border with Stoney Creek.

St. Peter's Hospital

St. Peter's Hospital is located in the central east part of the city. The site provides chronic and geriatric inpatient, outpatient, day hospital and community services. Its services focus on rehabilitation, geriatric psychiatry and palliative care.

Hamilton Psychiatric Hospital

Hamilton Psychiatric Hospital is located on the mountain. The site provides chronic psychiatric treatment and care for people with major mental illness, such as schizophrenia disorders, affective disorders, dementia with a major behavioural disorder, and development disability or acquired brain injury with a psychiatric or major behavioural disorder. It provides tertiary psychiatric care for people in the regions of Hamilton-Wentworth, Brant, Halton, Haldimand and Niagara, as well as forensic services for the province.

Facilities

Of the seven hospitals sites, two were built relatively recently - the McMaster University site and the Barton Street site. These buildings are in the best condition and have the greatest potential for expansion. St. Peter's site is also in good condition with a good internal environment and plans are in place to replace an old wing. The other four sites are older and more costly to develop or maintain. However, the Chedoke site, which is located on 200 acres, has a lot of room for expansion. The Charlton Street site is fully developed and limited by its physical layout. Hamilton Psychiatric Hospital is an older collection of buildings and would be expensive to bring up to current standards. A summary assessment of each site is presented as Appendix 2 to this report.

4.0 Analysis of the Requirements for Acute Care Hospital Services in Hamilton-Wentworth

The analysis of the requirements for acute care in Hamilton-Wentworth and the determination of the most appropriate configuration of facilities and services to meet those needs incorporated seven basic elements:

1. The role of acute care hospitals in the hospital system;
2. Population needs for hospital-based acute care services;
3. Responsibility of Hamilton-Wentworth hospitals to meet future population needs;
4. Hospital System Performance Analysis: Opportunities for future efficiencies in hospital services;
5. Overall future hospital service volume (system size);
6. Options for configuration of hospital services;
7. Costs and cost-savings in a restructured system of acute care hospitals.

An overview of this methodology is presented in Exhibit 4.1.

4.1 Role of the Acute Care Hospital in Hamilton-Wentworth

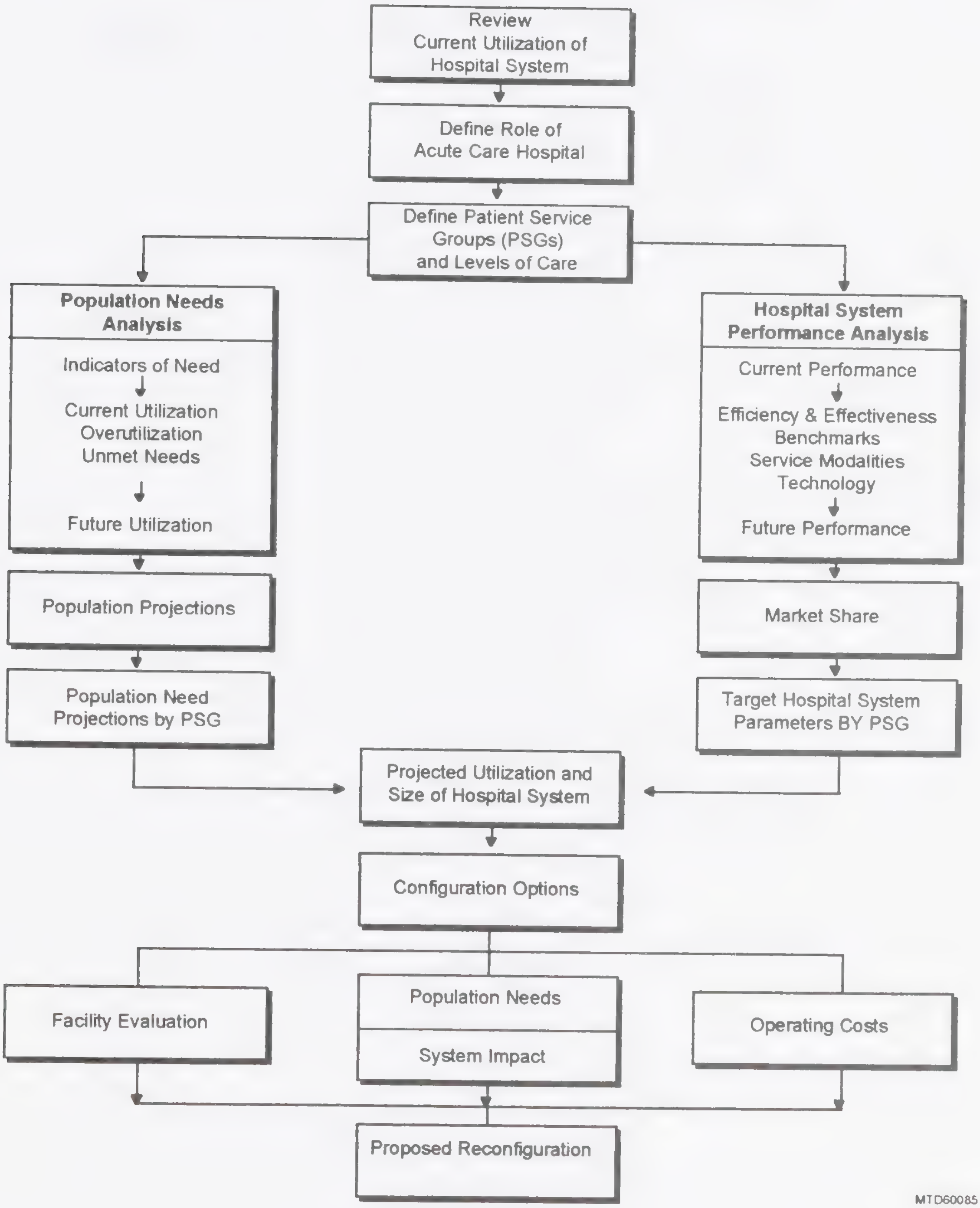
The Acute Care Working Group determined that acute care hospitals in Hamilton-Wentworth should focus on meeting the needs for acute care services of the communities they serve.

Acute care hospitals will be part of an interactive network of community organizations responsible for the health of the community. Within this network, the primary role of the acute care hospitals will be:

- The application of technologically sophisticated diagnostic and treatment resources in response to acute episodes of ill health;

Exhibit 4.1

Overview of Methodology


Review Current Utilization of Hospital System
Define Role of Acute Care Hospital
Define Patient Service Groups (PSGs) and Levels of Care
Population Needs Analysis
Indicators of Need
Current Utilization
Overutilization
Unmet Needs
Future Utilization
Population Projections
Population Need Projections by PSG
Hospital System Performance Analysis
Current Performance
Efficiency & Effectiveness
Benchmarks
Service Modalities
Technology
Future Performance
Market Share
Target Hospital System Parameters BY PSG
Projected Utilization and Size of Hospital System
Configuration Options
Facility Evaluation
Population Needs
System Impact
Operating Costs
Proposed Reconfiguration

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- The application of rehabilitative techniques and technologies to begin a process of restoring people to health as part of the acute phase of an episode of care;
- Identification of the need for, definition and initiation of a process to prevent the recurrence of the patient's ill health and the related acute episode.

The interpretation of this role can be clarified in relation to three sets of services:

- Services that should be offered only or principally by acute care hospitals; these are:
  - Emergency Care
  - Acute inpatient care
  - Geriatric assessment
  - Acute and intensive neonatal care
  - Ambulatory surgery (requiring an operating room and Anaesthetist support)
  - Disease prevention related to the re-occurrence of acute episodes for the hospital's own patients
  - High-risk complex obstetrical care;
  - Technology-based therapeutic services; and
  - Technology-based diagnostic services.
- Services that can be provided by acute care hospitals, but that should also be provided by other agencies; these include:
  - Normal obstetrical and well-baby care;
  - Ambulatory diagnostic services;
  - Day hospital care; and
  - Ambulatory care.
- Services that should not be provided routinely by acute care hospitals; these include:
  - Rehabilitation programs (ambulatory, short-term inpatient and long-term inpatient rehabilitation programs);
  - Transitional and convalescent care;
  - Continuing care;

  - Palliative care;
  - Respite care;
  - Deferrable care visits to emergency rooms;
  - Primary medical\surgical clinics;
  - In-home services;
  - Health education for the community;
  - Health promotion for the community; and
  - Disease prevention for the community.

Some of the issues regarding the interpretation of and implementation of the proposed role that were considered by the Working Group were:

- Emergency Care: emergency rooms should be located in acute care hospitals that offer a full range of clinical programs and services.

- Range of Clinical Services: each acute care hospital in Hamilton-Wentworth should have the capability to respond to a patient's needs for secondary level care related to all clinical programs. Also, acute care hospitals which provide only elective care should not be included in the restructured hospital system.

- Centralization of Tertiary Care: tertiary care - that is, care which requires highly specialized skills, technology and support services - cannot, realistically, be distributed among all acute care hospitals. The number of sites providing tertiary care will depend on:

  - the volume of patient needs;
  - the critical mass of service necessary to provide quality; effective and efficient care;
  - the availability of providers;
  - the availability of those diagnostic and therapeutic services, and of the specialized technology, necessary to support tertiary care;
  - the complexity of the necessary technologies; and
  - the implications for teaching and research.

- Ambulatory Care: The appropriateness of ambulatory care in an acute care hospital will depend upon such factors as cost, interdependence with inpatient programs and services, risk factors, the comparative availability of ambulatory care resources in other hospitals and in community agencies, patient access and patient preference.

- Acute Home Care: acute care hospitals should not provide in-home care; however, improved coordination is needed between the acute care hospitals and the home care agency with regard to convalescent care and in-home rehabilitation.

- Role of Acute Care Hospitals in Mental Health: acute care hospitals should continue to provide emergency, acute in-patient and out-patient mental health services. The provincial psychiatric hospitals, including Hamilton Psychiatric, should be responsible for both the management and the delivery of tertiary care for the most chronically and severely mentally ill, and forensic psychiatric care.

- Rehabilitation: acute care hospitals should focus on the rehabilitation care related to the acute phase of an episode of care. In-patient and ambulatory rehabilitation should be provided by an organization that specializes in rehabilitation, that is a Rehabilitation Hospital. The following model is proposed by the Working Group for the allocation of responsibilities for rehabilitation programs and services:

  – Acute Care Hospitals
  Rehabilitation as part of an acute episode of care.

  – Home Care
  Post acute rehabilitation in the home.

  – Rehabilitation Hospital
  Ambulatory rehabilitation
  Short-stay rehabilitation
  Long-term rehabilitation (responsibility could be shared with chronic hospitals)
  Tertiary\specialized rehabilitation
  Teaching and research in rehabilitation

  – Chronic Hospitals
  Rehabilitation as part of the regimen of care for complex continuing care patients.

- Role of Acute Care Hospitals in Chronic Care: acute care hospitals should not provide chronic care. In keeping with the strategic direction taken by the Ministry of Health, chronic hospitals will provide complex continuing care, respite care and palliative care.

- Organization of Therapeutic, Diagnostic, Support and Administrative Services: Therapeutic diagnostic and support services account for about 50% of hospital system costs. The sharing of some services among acute care hospitals can lead to higher quality services at lower costs, because of the ability to obtain better technology, more training for personnel and more efficient production. Sharing works best with those production-oriented functions which do not involve patient contact. Significant opportunities for savings and improvements include laboratories, food services and materials management. The Working Group urges that these and all other opportunities to improve service quality and reduce costs through sharing should be pursued as part of the process of restructuring hospital services.

4.2. Patient Service Groups and Levels of Care

Patient Service Groups

Several approaches were explored for categorizing population needs and hospital services. The Patient Services Group (PSGs) framework was selected The PSG framework builds on established categorizations (Major Clinical Category (MCC) and Case Mix Groups (CMGs), diagnoses and procedures) to provide groupings of similar patient problems. Patient problems are grouped in relation to the affected body system. Problems are defined in relation to the diagnosis and/or the resultant treatment. There are 22 Patient Service Groups.

Breast Disease Services
Cardiovascular Services
Dental Services
Dermatologic and Plastic Services
Gastro-Intestinal Services
Gynaecological Services
Haematological Services
Hepatobilitary Services
Infectious Disease Services
Mental Health Services
Metabolic
Musculoskeletal
Neonatalogical Services
Nephrological Services
Neuroscience Services
Opthalmologic Services
Otolaryngologic Services
Pregnancy and Birthing
Respiratory System Services
Anaphylaxis, Poisoning and Other Effects of External Stimuli
Trauma Services
Urological Services

The PSG approach was chosen for several reasons including:

- It focuses first on the patient and the patient's needs rather than on the medical specialty or service offered by a health care provider or hospital;
- It does not prejudge the nature of the required intervention - medicine, surgery, or radiation
- It does not prejudge the modality of treatment - inpatient, outpatient, community, or in-home care;
- Although patient focused, it can also be used to categorize hospital programs and services.

Levels of Care

In order to reflect the complexity of care requirements, cases and care were assigned to levels of care using the Hay Index. The Hay Index is derived from Canada-wide and Ontario CIHI data and is designed to objectively and consistently assign cases\treatments to primary, secondary, tertiary or quaternary care.*

- **Quaternary** care requires highly specialized skills, technology and support services. Quaternary services provided by a hospital would be expected to serve the majority of the residents of Central West or the entire Province. (For the purposes of this project, the term "Quaternary" refers to highly specialized tertiary services such as transplantation, multiple trauma, cardiac surgery, etc.)
- **Tertiary** care also requires specialized skills, technology and support services. Tertiary services would be expected to be consolidated in a single delivery site for a planning region (such as Hamilton or Central West or a geographically defined health care network). Not all Hamilton hospitals would be expected to be capable of providing all tertiary care.
- **Secondary** hospital care is care most commonly provided in an acute care hospital by a specialist health care

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* For the assignment of Case Mix Groups to PSGs and to Levels of Care, see Hay Report, Chapter 3, Appendices 1 and 2.

professional. Secondary hospital care would be expected to be available in every Hamilton acute care hospital .

- **Primary** hospital care is basic care that for most PSGs, would not be expected to be provided by hospitals in an urban area. With the exception of obstetrics, there is very little primary hospital care provided on an inpatient basis by Hamilton hospitals

This methodology has been adopted by the Joint Policy and Planning Committee, a joint committee of the Ministry of Health and the Ontario Hospital Association for use in the new funding formula for Ontario hospitals.

PSGs and Levels of Care formed the central analytic framework for describing, defining and measuring the populations needs for hospital services and the resources required to meet those needs.

4.3 Population Needs For Acute Care Hospital Services

The purpose of this phase of the analysis was to determine the future needs of Hamilton-Wentworth residents and Central West Region residents for hospital services. The analyses were designed to establish Target Need Rates (episodes per population) by age group within each PSG, and then use these Need Rates to estimate the future amount hospital care that will be required for each PSG.

Need Rates

In the process of establishing Target Need Rates, the Working Group had to determine whether the historical utilization rates for acute care hospitals in Hamilton-Wentworth reflect population need:

- Could some portion of the historical demand for acute care hospital services be accommodated outside the hospitals as part of a restructured health care system?
- Have there been unmet needs for acute care hospital services in the past?

Decisions on these issues were informed by different analyses:

- a comparative analysis of community needs, looking at different communities as a basis for comparison;

- research in health services;
- previous planning studies;
- the operating plans of Hamilton-Wentworth hospitals; and
- Standard Mortality Rates and Low Birth Weight comparisons.

As well, the Acute Care Working Group took into account the assumptions and analyses of the Primary Care Working Group and the Continuing Care Working Group of the Health Action Task Force.

Small Area Variation Analyses (SAVA) were used to help analyze the appropriateness of the current rate of utilization of acute care hospital services by Hamilton-Wentworth residents. The analyses showed that the population's overall utilization rates in Hamilton were similar to those in London, Toronto, Ottawa, Winnipeg and Vancouver. Only St. John's Newfoundland has a lower utilization rate. The analyses also showed that Hamilton-Wentworth has the lowest (age-gender adjusted) utilization rate in the Central West Region.

Hamilton's low utilization rate appears to come from its physicians' close connections with teaching and research activities at the McMaster Academic Health Science Centre. For example, Hamilton's utilization rates are low in those activities where research has questioned the appropriateness of hospital-based treatment. The figures suggest that physicians connected to the academic health science centre may be more familiar with current clinical guidelines and more confident in non-hospital management of care.

The conclusion is that utilization rates in Hamilton are low for sound medical reasons. There is no evidence that either: services are overutilized because physicians are admitting patients inappropriately to acute care hospitals, or that physicians are not responding to patient's needs for acute care treatment by not admitting them to hospital when that is where they should be. Thus, the Acute Care Working Group has used the utilization rate of the Hamilton-Wentworth population in 1994/95 for planning the future configuration of hospital services. These rates were used for all age groups within all PSGs except for paediatric and adolescent mental health which were increased substantially. Additionally, the Working Group used the 1994/95 Hamilton-Wentworth utilization rates as the Need Rates for the other regions in Central-West as the basis for determining the number of cases to be referred from these regions to Hamilton hospitals in the future.

Population Characteristics and Growth

The Region's population growth of 27% forecast for 1991 - 2006 means not only more people whose needs must be met, but also extending services geographically to accommodate the growing population centres of Ancaster, Flamborough, Glanbrook and Stoney Creek. By 2001, the growth will be approximately 18% overall, while the population in these municipalities is expected to have grown between 20% and 30% since 1991. In contrast, the population in Dundas and Hamilton is expected to increase by between 5% and 10% over the same period.

A compounding issue is the need to adjust programs, services and technology to meet the needs of the growing proportion of the population which is moving into the ranks of seniors and particularly old seniors. Overall, in Hamilton-Wentworth the projected growth rate for the 65-plus age cohort to 2005 is 35%. This is greater than the growth rate for the total population in that time period, 27%.

A high risk group within the seniors' population is the elderly (over age 75 years). This group is more likely than younger seniors to be frail, in poorer health, and have chronic health conditions than are younger seniors. In H-W the number of seniors age 75+ will increase by 45% by 2000 and by 70% by 2005.

Other population characteristics relevant to the supply, organization and distribution of acute care hospital services that were considered by the Working Group pertain to income, dependency, fertility rates, religion and the use of Hamilton-Wentworth acute care facilities by those in adjacent municipalities in Central West Region, and the use of London and Toronto facilities by Hamilton-Wentworth residents.

Of special interest is religious affiliation. Of those in Hamilton-Wentworth reporting a religious affiliation to Statistics Canada in 1991, about 42% stated they were Catholic. This high percentage indicates serious consideration had to be given to maintaining a denominational hospital in the Region.

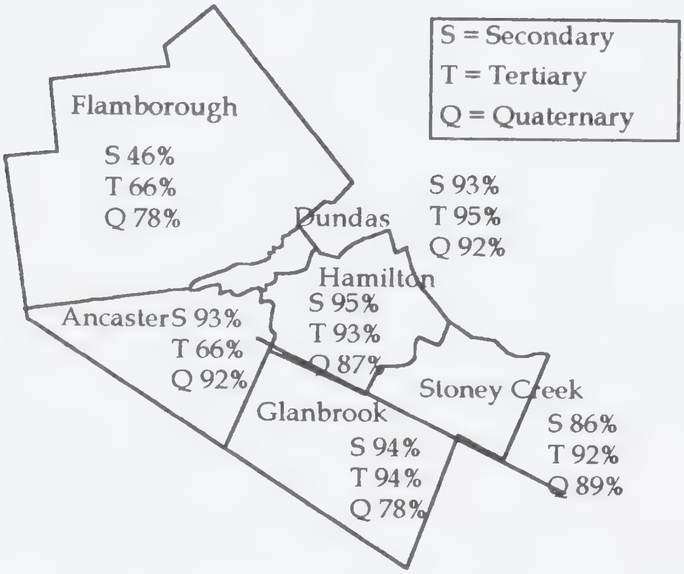
Overall, the restructuring of acute care hospitals must accommodate growth in the population, the expansion of the population into municipalities outside Hamilton, the substantial proportion of persons of the Catholic faith and the rapid growth in the seniors population, particularly in the 75 and older age cohort and the related shifts in hospital programs and services necessitated by these changes.

Market Share: Responsibility of Hamilton-Wentworth Hospitals to Respond to Hospital Care Needs.

At present, residents of Hamilton-Wentworth, except for those in Flamborough, rely primarily on hospitals in Hamilton for secondary acute care. (Exhibit 4.3.1)

Exhibit 4.3.1

Reliance on Hamilton-Wentworth Hospitals by Level of Care



- Hamilton City residents use Hamilton hospitals for about 95% of their secondary and tertiary care and 87% of their quaternary care;
- Dundas residents use Hamilton hospitals for over 90% of the three levels of care;
- Glanbrook and Ancaster residents use Hamilton hospitals for over 90% of their care;

- Stoney Creek residents use Hamilton hospitals for 86% of their care; and
- Flamborough residents use Hamilton hospitals for only 47% of their care; the rest of their secondary care is provided by hospitals in Burlington and east; higher levels of care are provided by hospitals in Hamilton or Toronto.

In addition to the use of Hamilton's hospitals by Hamilton-Wentworth residents, some residents of Central West Region also use Hamilton hospitals for acute care, for example, 24% of those in Haldimand-Norfolk and about 9% in each of Brant, Halton and Niagara.

Future Market Shares of Hamilton Hospitals

For planning purposes it was assumed that residents of Hamilton-Wentworth, and residents of Central West Region and outside the Region, would continue their current rates of reliance on Hamilton hospitals, with several exceptions: Flamborough residents would use Hamilton hospitals for 80% of their tertiary care, up from the current rate of 66%; and Ancaster residents would use Hamilton hospitals for 92% of their tertiary care, up from their current rate of 66%.

Volume of Hospital Services

The estimated volume of inpatient and ambulatory care that Hamilton hospitals will need to provide in 2000 can be estimated by combining the following analyses:

- the projected population in 2000 by municipality,
- the proposed 'Need Rates' for hospital services,
- the market share of hospital services to be provided by Hamilton hospitals for residents in Hamilton-Wentworth municipalities, and those elsewhere in Central West,
- the projected volume of services for patients from outside Central West by applying an overall percent increase in cases, based on historical trends by clinical area and level of care.

The results of these analyses are set out in the Hay Report, Chapter 6, and summarized in Exhibit 4.3.2.

Overall, the Working Group predicts that the Hospital system in Hamilton-Wentworth will need to provide 7,300 or 7.1% more episodes of care in 2000 than it did in 1994/95.

Exhibit 4.3.2

Comparison of Proposed Total Case Requirements Incorporating Need and Population Change

PSG	1994/95 Actual				2000 Proposed				% Change
	Sec	Tert	Quat	Total	Sec	Tert	Quat	Total	
1 Neuroscience	2,969	985	-	3,954	2,801	1,457	-	4,258	7.7%
2 Ophthalmologic	3,355	262	-	3,617	3,648	459	-	4,107	13.5%
3 Otolaryngologic	3,580	309	29	3,918	3,951	549	70	4,569	16.6%
4 Dental	554	-	-	554	628	-	-	628	13.4%
5 Respiratory	4,636	438	-	5,074	5,040	757	-	5,797	14.3%
6 Cardiovascular	8,009	1,667	952	10,628	7,969	2,661	2,104	12,733	19.8%
7 Gastrointestinal	17,474	67	-	17,541	18,604	112	-	18,716	6.7%
8 Hepatobiliary	2,578	175	-	2,753	2,738	297	-	3,035	10.3%
9 Musculoskeletal	8,154	2,074	-	10,228	7,773	3,129	-	10,902	6.6%
10 Derm. & Plastics	2,226	165	14	2,405	2,347	283	34	2,663	10.7%
11 Breast Disease	1,252	-	-	1,252	1,406	-	-	1,406	12.3%
12 Metabolic	1,116	207	-	1,323	1,169	349	-	1,517	14.7%
13 Nephrological	369	282	50	701	285	343	83	711	1.4%
14 Urological	6,622	485	-	7,107	7,659	910	-	8,569	20.6%
15 Gynaecological	4,999	107	2	5,108	5,007	174	4	5,185	1.5%
16 Preg. & Birthing	11,316	-	-	11,316	10,387	-	-	10,387	-8.2%
17 Neonatological	7,565	532	131	8,228	6,846	536	132	7,514	-8.7%
18 Haematological	2,134	547	18	2,699	1,646	677	33	2,356	-12.7%
19 Infectious Dis.	728	3	-	731	790	5	-	795	8.7%
20 Mental Health	1,808	20	-	1,828	2,186	38	-	2,224	21.7%
21 Anaphylaxis...	372	2	-	374	456	4	-	460	22.9%
22 Trauma	-	148	13	161	-	135	18	153	-5.1%
99 Other/Unspec.	866	5	-	871	958	9	-	966	11.0%
Total Cases	92,682	8,480	1,209	102,371	94,294	12,880	2,477	109,652	7.1%

4.4 Hospital Performance Targets

Given the estimated volume of hospital services required to meet future needs of residents, the next stage of analysis focused on developing targets for hospital performance in responding to these needs. A 1994 report of the Conference of Federal\Provincial\Territorial Deputy Ministers of Health concluded that there was considerable evidence that many hospital beds and days are used for non-acute care, which by definition is inappropriate. Canadian and other studies have found rates of inappropriate use of acute care hospital services of between 30% and 50%. In Hamilton-Wentworth the objective is to design an acute care hospital system which minimizes inappropriate utilization. This can be achieved by examining admission management, length of stay, discharge and transfer and emergency room use.

Admission Management

Reductions in the number of hospital admissions can be achieved through several means including eliminating those services currently carried out in hospitals which can be provided elsewhere (such as dental extractions); and by reducing admissions for those procedures which can be carried out through less expensive and appropriate hospital-based ambulatory care (for example, day surgery for minimally invasive laproscopic gastrointestinal surgery and laser eye surgery). Admissions management involves identifying these alternatives to inpatient admissions. Enhanced community services and new health care technology allow many patients to receive a range of care on an outpatient basis; services which previously could be provided only if the person was admitted for investigation or treatment as an inpatient.

An analysis was carried out of alternatives to admissions and the use of ambulatory procedures. Targets for the percentage of care that should be provided as ambulatory care were established for each Case Mix Group. The target selected was the highest percent of cases treated on an ambulatory basis that was achieved or exceeded by Ontario teaching hospitals that accounted for 25% of the cases treated in Ontario teaching hospitals in 1994/95. Thus, these targets are based on benchmarks established by other teaching hospitals. This methodology is consistent with the approach taken by the Joint Policy and Planning Committee and the Institute for Clinical Evaluative Sciences.

Achievement of these targets will require more use of hospital ambulatory care and strengthening community services to support the ambulatory patient.

Exhibit 4.3.3 indicates that appropriate hospital performance targets for ambulatory procedures would enable an increase in ambulatory care from about 37,000 to about 43,000 cases. This would result in a reduction of about 8,855 inpatient days.

Exhibit 4.3.3

Impact of Alternative Ambulatory Procedure Benchmarks

	25th percentile
94/95 Ambulatory Procedures	37,044
94/95 Inpatient Cases	65,327
94/95 % Ambulatory Procedures	36.2%
Potential Increase In Ambulatory Procedures	6,236
Resulting % Ambulatory	42.3%
Reduction in Inpatient Days	8,855
Avg. Days Reduced/Case	1.4

Length of Stay Management

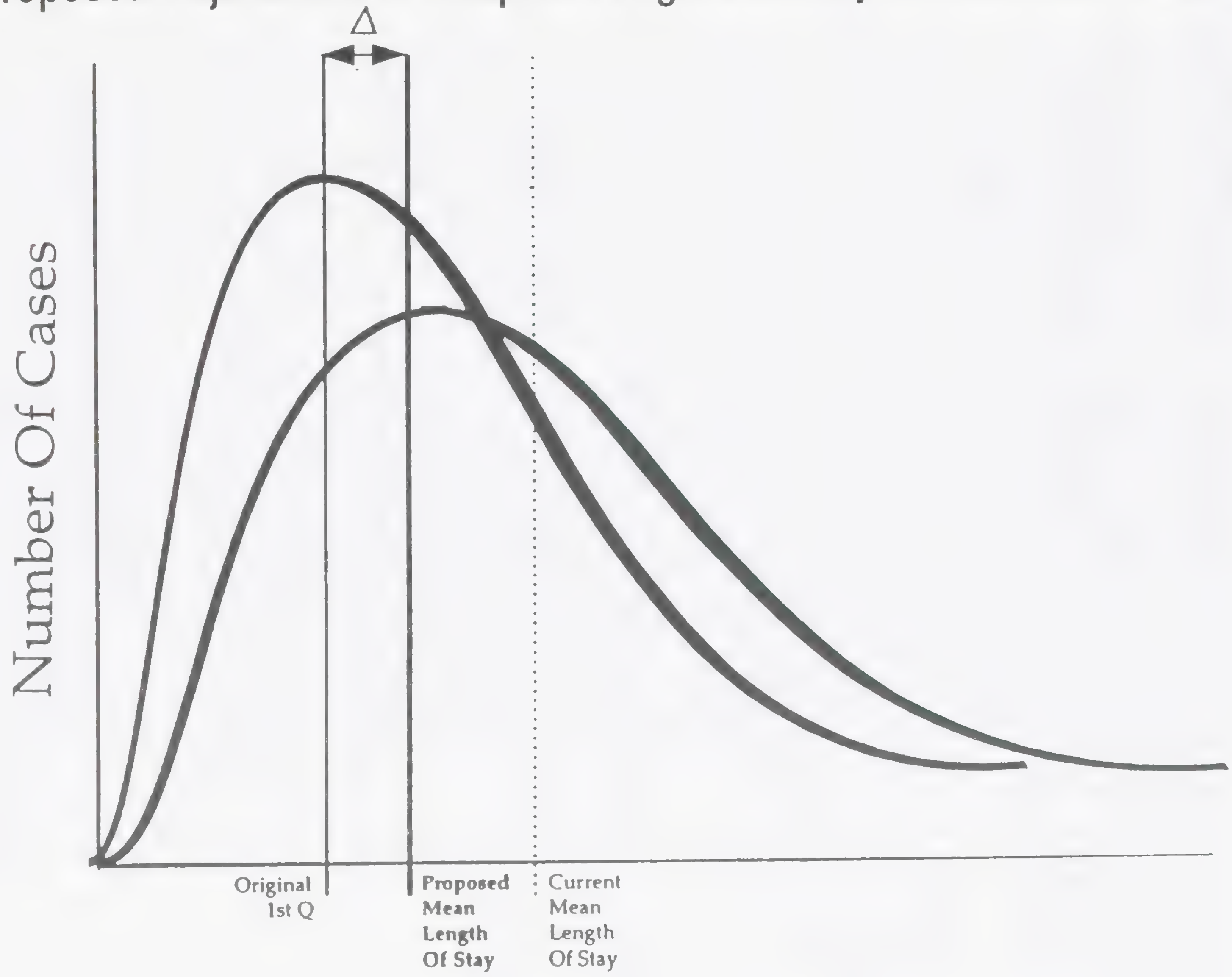
Inpatient length of stay can be reduced by such measures as: expanding the use of preoperative testing, implementing clinical protocols or practice guidelines, installing systems to implement expected date of discharge, reducing delays in care by redesigning work processes and making better use of technology to speed clinical communications.

One approach to assessing opportunities for reducing length of stay (LOS) is to compare the actual LOS of Hamilton patients with the LOS of similar patients in other jurisdictions. Analyses were carried out using the Ministry of Health's Case Mix Group 94 data for patients treated at Ontario's teaching hospitals. Targets were established for average LOS for hospitals in Hamilton for each age group within each Case Mix Group.

Based on its analyses, the Working Group determined that variation in length of stay for acute portion of an episode of care generally can be accounted for by differences in:

- the condition of the patient;
- physician practice patterns; or

Proposed Adjustment to Hospital Lengths of Stay for Hamilton Hospitals



HayGroup

- hospital policy, procedure and performance impediments to expeditious delivery of care.

The patient's initial condition is not controllable and the resulting requirement for extended periods of acute care should be accommodated in any LOS performance targets. However, variations in physician practice that add days to LOS without improvement in outcomes and hospital impediments to shorter lengths of stay can and should be reduced or eliminated.

The target for average length of stay was selected to provide for difference in patient condition while expecting significant reduction in controllable variance in length of stay. The target is the lesser of:

- the first quartile value plus the difference between the mean and median of the distribution of cases treated in Ontario teaching hospitals; and

- the actual 1994/95 average length of stay for the CMG for the age group in the hospital.

Setting the target at the first quartile suggests aggressive work on reducing impediments to short-stays in hospital and reduction in variation in physician practice patterns. The difference between the mean and the median is added to provide for uncontrollable differences in patient condition that may require extended periods of acute care. This adjustment is displayed graphically in Exhibit 4.3.4.

The resulting overall target average length of stay for typical cases[*] is 3.82 days per case. This will be a reduction of 29% from the 1994/95 actual average length of stay in Hamilton of 5.39 days per case.[**]

This was the target set for 'typical' cases. The percentage of reduction in length of stay achieved for typical cases was applied to transfers and cases with outlier lengths of stay to determine the potential number of days saved. There was no reduction in patient days projected for patients that died.

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[*] Based on 1994/95 distribution of cases by PSG and age in Hamilton hospitals.

[**] After removing cases that will, in the future, be treated on an ambulatory basis.

Discharge \ Management Transfer

This involves eliminating unnecessary or inappropriate days of hospital stay at the end of an acute inpatient stay, prior to discharge or transfer. Efficient use of acute care hospital beds is often hindered by the need to provide an acute care bed to a patient who is well enough to be discharged, but who has no family support at home and cannot be discharged, or cannot obtain admission to a rehabilitation, chronic care or long-term care facility and thus cannot be transferred.

These patients typically are identified as Alternative Level of Care (ALC). Estimates are that 9.24% of patient days in Hamilton hospitals are in the ALC category. The plurality of these patients (33%) went to a long-term care facility when they were eventually discharged; and 25% were eventually transferred to a chronic care hospital or unit; 10% eventually went home and 4% went home or to another location where they received Home Care services.

Expeditious discharge or transfer from acute care hospitals is a desirable objective from the perspective both of reducing the misuse of hospital resources and of the patient's well being. Patients are less likely to suffer from function decline associated with extended stays waiting for an appropriate placement; there is less likelihood of the individual suffering an injury or illness caused by a treatment or exposure, for example to bacterial infection.

The Working Group's analysis indicated that 90% of ALC bed days could be eliminated if patients could be discharged to an appropriate location once their course of acute care was completed. This target, for 2000, will require the enhancement and expansion of community-based services, long-term care facilities and chronic care beds. The remaining 10% of ALC beds would be used for patients facing the usual delays in transfer or discharge.

Overall Impact

The overall impact of these changes in hospital performance will be to shift an additional 6% of cases to ambulatory care and to reduce the average length of stay for all admitted patients by 26% from 7.37 days per patient in 1994/95 to 5.43 days per case. [*]

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[*] Based on actual distribution of cases by CMG and age in 1994/95.

Occupancy Rates

The target occupancy for each PSG is the percentage of the beds assigned to the PSG that would be expected to be occupied on any given day. Target occupancy rates should provide sufficient capacity to allow for factors such as low census on weekends, seasonal variations in admissions, peak demand, the unexpected, and variability in utilization by paediatric patients within each PSG.

The Working Group determined that a 90% occupancy target was appropriate for all PSGs except for the Neonatological Services which require use of an 80% occupancy target, and the Pregnancy and Birthing Services and Trauma Services which require a 75% target.

Emergency Services

Emergency services are an important component of the services provided by Hamilton-Wentworth's acute care hospitals. A substantial proportion of admissions to hospital are through the emergency room. Visits to the ER typically fall into one of three categories as defined by hospitals in Hamilton-Wentworth:

- Emergent: Requires immediate medical attention; delay is harmful to the patient; disorder is acute and potentially threatens life or function.
- Urgent: Requires medical attention within a few hours; in danger if not attended; disorder is acute but not necessarily severe.
- Deferrable: Does not require the resources of an ER; disorder is minor or non-acute.

The experience of hospitals across the province is that perhaps half to three quarters of visits to the ER are deferrable. Studies in Hamilton have indicated that 58% - 64% of visits to an ER did not require the services of an emergency department for treatment. Other studies suggest that only a small percentage (2.5% to 10%) of ER visits are truly emergencies. Studies by the Institute for Clinical Evaluative Studies (ICES) show that, although health needs were the strongest single determinant of ER use, other factors also appear to be influential. These factors include low income, children of single parents, unemployment, lower educational status, homelessness and other forms of marginalization.

It appears, based on this research, that hospital ERs have become important sources of primary care for many people who do not have emergent or urgent health care needs. This does not serve the patient well. Primary care requires continuity, follow up, continuing care and a focus on the well being of the individual and family. ERs are not well suited to these activities and are expensive as well. One of the necessities of improved use of ERs is a stronger primary care network in Hamilton-Wentworth which will reach out more effectively to those who rely on their local hospital's ER for primary care.

For planning purposes, the Working Group has assumed that 40% of the current volume of ER visits would be better serviced by primary care providers in the community. Future planning is based on a 40% reduction in the volume of ER visits.

Prerequisites for Modifying Acute Care Performance

The Working Group emphasizes that to achieve its targets there must be an appropriate investment in services in the community - including more long-term care beds, rehabilitation services, primary care and community support services, and improved coordination with the acute hospital sector.

4.5 Sizing the System: Projected Utilization and Size of Hamilton-Wentworth's Hospital System in 2000

The projected overall requirement for hospital services by the year 2000 in Hamilton-Wentworth's hospital sector are a combination of:

- Population projections,
- Target "Need Rates" for Hamilton-Wentworth
- Application of Target "Need Rates" for Hamilton-Wentworth to other communities using its hospitals,
- Market share assumptions.
- Hospital Performance Parameters
  - Use of ambulatory procedures;
  - Length of stay,
  - ALC days.
  - Occupancy rates

A summary of the projected acute care hospital requirements for 2000 is set out in Exhibit 4.5.1 which indicates the direction and magnitude of the changes required. As the table indicates, the overall volume of services to be provided by Hamilton-Wentworth acute care hospitals is projected to increase by 7% by 2000.

Exhibit 4.5.1
Projected Acute Care Requirements for 2000

Indicator	1994/95	2000
Ambulatory Procedures	37,044	45,382
Inpatient Cases	65,327	64,270
Total Cases	102,371	109,652
Beds (excl. bassinets)	1,380	1,088

The requirements for inpatient beds in 2000 are expected to decrease by 300 or about 22% from the beds currently being used in Hamilton.

By achieving the hospital performance targets developed in this study, it will be possible for Hamilton-Wentworth to provide more care in 2000 with fewer beds than it is using now.

The Working Group emphasizes that Hamilton-Wentworth currently has 1,762 beds. It is already providing the current volume of inpatient services with fewer beds than are available in the system. This is demonstrated by the table below.

Exhibit 4.5.2
Capacity and Requirements for Hospital Beds

Acute Care Beds In System in 1994/95		1,762
Beds used in 1994/95	1,380	
Unused Beds in 1994/95		382
Beds Projected for 2000	1,088	
Unused Beds in 2000		674

Also, in 1989 there were 2393 beds staffed and in operation in acute care hospitals. As can be seen, since that time the beds used has declined by over 1000 to 1380 in 1994/95. The Working Group suggests that achievement of the performance targets will provide a further reduction of 300 beds while still accommodating the projected 7% increase in service requirements. Thus, there can be a reduction of 1305 beds from the number staffed and in operation in 1989 to the number required in the year 2000.

Operating Room Requirements

While much of the capacity analysis conducted focused on inpatient bed requirements and ambulatory clinic volumes, the capacity of a hospital, at least for surgical patients, is as much a function of operating room (OR) availability as it is beds. OR requirements were examined to ensure that any proposed configuration options include sufficient OR capacity to accommodate the volume of surgical cases proposed for each delivery site.

To support the analysis of operating room requirements, 1993/94 acute care morbidity data (for Toronto hospitals which more routinely abstract OR times) was used to find the average operating room time for the surgical cases in each level of care in each CMG/PSG. Only surgical cases with valid entries for operating room time were included in the calculations. In addition, average turnaround times between procedures were estimated (Exhibit 4.5.3).

Exhibit 4.5.3
Average Operating Room and Turnaround Time Estimates

Level of Procedure	Average OR Time (minutes)	Estimated Turnaround Time Between Procedures (minutes)
Ambulatory	32	15
Secondary Inpatient	95	30
Tertiary Inpatient	180	45
Quaternary Inpatient	216	60

Source: 1993/94 CIHI Acute Care Morbidity Data for Toronto Hospitals.

The Average OR times by CMG are presented as Appendix 1 to Chapter 8 of the "Hay Report".

Calculations of future OR requirements combine these OR standards with assumptions about OR availability. In making these assumptions, it is recognized that unavoidable surgical case cancellations, turnaround delays, equipment shortages and unavailability of clinical staff all prevent completely efficient use of OR theatres. While OR scheduling systems based on realistic procedure time estimates will help to improve utilization of OR capacity, there will always be some unplanned downtime. Therefore, the following conservative assumptions purposely understate actual OR availability to ensure that the projected number of ORs provide adequate capacity for inevitable downtime:

- Operating room theatres will be used 247 days per year (Monday through Friday, minus statutory holidays).
- All OR use will occur during an eight-hour prime time period. All surgical cases (including emergency cases) will start and end (including turnaround) within the eight-hour period.
- All ambulatory procedure cases will require the use of a full OR theatre (not simply a procedure room).

Operating Room requirements were also projected using more realistic assumptions:

- Terminal room clean occurs outside prime time.
- Emergency cases occur outside prime time or bump elective cases so that they are handled outside prime time.
- Between case turnaround requires 10 minutes for ambulatory procedures, and 20, 30, and 40 minutes respectively for Secondary, Tertiary, and Quaternary procedures.

Both the conservative and realistic OR requirement analyses may inflate OR requirements because:

- Reported OR times may be inflated due to inclusion of turnaround times in procedure times on the CIHI abstracts of some Metro Toronto hospitals;
- Have assumed Caesarean sections use Operating Rooms; and
- Have assumed all procedures use Operating Rooms

all of which are not likely in a restructured, patient focused and efficient hospital system.

Based on these combined assumptions, it is estimated that the total number of OR theatres that will be required to support the projected volume of surgery in Hamilton hospitals in 2000 will range from 34 to 43 rooms as presented in Exhibit 4.5.4.

Exhibit 4.5.4

Operating Theatre Requirements for 2000

Type of Case	Estim. Theatres Required Low	 High
Ambulatory Procedures	9.1	10.3
Secondary Inpatient	10.2	12.9
Tertiary Inpatient	10.0	13.1
Quaternary Inpatient	5.2	6.8
Total	34.6	43.1

Facility Assessments

Each of the hospital's sites and buildings were assessed to help inform strategic planning decisions with broad reference to opportunities or limitations posed by existing sites and facilities.

The initial assessments included consideration of:

- site, size, ease of access
- building fabric: walls, roofs, windows
- building structure: columns, load bearing, walls, beams, floor to floor
- heights
- building systems: heating, ventilation, air conditioning, electrical power, lighting, communications, etc.
- compliance with codes
- useful life expectancy
- ease of adaptation and/or redevelopment
- suitability for re-use

The sites and buildings were also reviewed to confirm the feasibility and capital costs of the proposed reconfiguration of hospital services. A summary of the findings of the facility assessments are presented in Appendix 2.

4.6 Configuring the Hospital System

Because it will be possible to provide the same or a greater volume of care in 2000 with fewer beds, Hamilton-Wentworth will need less hospital capacity in 2000 than it currently has. The hospital system can be smaller and still provide high quality care.

The Working Group spent many meetings discussing and weighing the issues associated with reconfiguring the hospital sector. The Working Group looked at different ways to configure the system to provide the necessary capacity, ensure that people in the community still have easy access to appropriate hospital-based care, promote excellence in service, education and research, make the best use of existing buildings and facilities, and ensure that Hamilton-Wentworth has an affordable, sustainable health care system in the future. The Working Group feels that all the hospitals provide high quality services at their sites, so there was no option which involved removing a less than adequate hospital, or hospital site from the system.

Options and Criteria

The Working Group looked at a number of different options. These can be grouped into three categories:

1. Maintaining the status quo, and downsizing each of the hospitals in various ways;
2. Variations on a two-hospital system;
3. Variations on a three-hospital system.

Each of the options and its variations was assessed against a number of criteria:

- the role of the acute care hospital - is the option consistent with the defined role of the acute care hospital?
- population - will the option keep services close to resident and close to those areas where the greatest population growth will occur?
- impact on the community - how much will the option disrupt patients and families or affect access or travel time?
- impact on the organizations - how much will the option disrupt and displace staff, or change the culture and environment of the different settings, or impact on practice patterns?
- impact on education and research - how will the option affect existing and potential teaching and research arrangements and opportunities?
- cost - what are the annual fixed, maintenance and redevelopment, relocation and program costs?

- physical plant - do the physical structures lend themselves to the option and have they the capacity to adapt? does the option take into account site co-dependencies?
- community values - does the option reflect community values such as having teaching and research, or having a denominational hospital?
- community readiness - will the community accept the changes required by the option?

Preferred Configuration

Using these criteria, the Working Group decided after much deliberation that shifting from four to three sites for acute care was the preferred option. It would provide the capacity to accommodate the required volume of services, maintain accessibility, and provide opportunities to consolidate selected programs and services to achieve the critical mass that leads to better care, education and research. Also, the Working Group has suggested that tertiary psychiatry, rehabilitation and chronic care should be consolidated. Thus the whole hospital system would be reduced from seven to five sites.

In its decision, the Working Group paid particular attention to:

- Maintaining equitable access for all residents in Hamilton-Wentworth and Central West;
- Maintaining a denominational hospital in the community;
- Maintaining and strengthening the role of the Faculty of Health Sciences in the health care system.

The basic components of the reconfigured acute care hospital system include the following:

- Programs and services, and related staff, of the existing hospitals and sites will be distributed across the reconfigured system to enhance equitable access, critical mass and other attributes;
- Hamilton Civic Hospitals will discontinue its governance of the Henderson Divison on Concession Street, and that site will be occupied by an acute care denominational hospital, with an emergency department, governed by the Sisters of St. Joseph;

- Hamilton Civic Hospitals and Chedoke-McMaster Boards will merge;
- The merged Hamilton Civics and Chedoke-McMaster Board will locate a full acute hospital with an emergency department on the Barton Street site;
- The merged Hamilton Civic and Chedoke-McMaster Board will locate a full acute hospital with emergency department on the McMaster University site;
- The merged Hamilton Civic and Chedoke-McMaster Board will locate on the Chedoke site a rehabilitation and chronic care hospital;
- Locate on the Chedoke site tertiary mental health program and forensic services governed by the Hamilton Psychiatric Hospital;
- Discontinue use of the Charlton Street site for acute care;
- Close the site of the Hamilton Psychiatric hospital.

In addition, until the Health System Board can determine the most appropriate role and location for community care sites, Hamilton-Wentworth's integrated health system should maintain two ambulatory care programs providing unscheduled care ("urgent care"); one at St. Joseph's Community Health Centre, governed by the Sisters of St. Joseph, and one on the Chedoke site, governed by the merged Hamilton Civic\Chedoke-McMaster Board.

Distributing Programs and Services Across the System

Once the Working Group identified the three acute care hospital sites, it turned its attention to the distribution of existing programs and services, and how these might be accommodated within the proposed site configuration.

It will not be possible to simply relocate the programs and services currently at the Charlton Street site and merge them with the existing programs and services at the Concession Street site. There is insufficient bed, diagnostic and therapeutic capacity at the Concession Street site to accommodate the programs and services from both sites.

Thus, the Working Group needed to develop a model for program and service realignment that would demonstrate the feasibility of reducing the number of hospital sites and more particularly, the number of acute care sites and that would fit within the capacity of the remaining sites. In developing the proposed program realignment model the Working Group focused on five key assumptions:

- Clinical effectiveness and efficiency of a program is based on the learned interdependencies and relationships of program staff and supporting diagnostic and therapeutic services. In realigning programs, effectiveness is best preserved by maintaining intact significant portions if not entire programs.
- Charlton Street programs should be moved intact to the Concession Street site; as far as possible.
- Preservation of the integrity of oncology services in Hamilton will require retention at the Concession Street site of those programs and services that are most critically interdependent with the Hamilton Regional Cancer Centre.
- Preservation of denominational health care will require that some clinical programs be moved from the Henderson.
- In the event that the total program volume cannot be fully accommodated at Concession Street site then some volume will need to be accommodated elsewhere

Many other criteria were used to develop the model including:

- critical mass requirements;
- inter-dependencies among programs;
- balancing of patient volume among sites;
- program cultures;
- the sites' physical capacity;
- impact on flagship programs;
- operating room requirements;
- supporting teaching and research requirements; and
- supporting infrastructure

Based on these criteria, the Working Group proposes the following model should be considered a starting point in discussions regarding program realignment. Although the proposed realignment will achieve the objectives for restructuring and ultimately strengthen patient care, teaching and research in the academic health sciences centre, its principal function has been to facilitate planning and the analysis of operating costs and facility redevelopment costs in the restructured system. The final determination of the most effective program realignment will require involvement of program participants during the implementation phase. The proposed model[*] for program realignment is:

Charlton Street Programs

All existing Charlton Street programs and services move to Concession Street except:

- 50% of inpatient respiratory services to McMaster
- 15% of cardiovascular services to Barton Street (This focuses on the transfer of peripheral vascular surgery to Barton Street which is in keeping with prior recommendations of the Regional Planning Committee and the collaboration agreement between St. Joseph's Hospital and the Hamilton Civic Hospitals.)
- 50% of gastrointestinal services to McMaster
- 25% of musculoskeletal services to McMaster
- Nephrological services to Barton Street
  Nephrology and kidney transplant to Barton Street is consistent with the clustering of quaternary program at this site.
- Haematological services to McMaster.

Concession Street Program

All existing Concession Street site programs and services remain except:

- Neuroscience to McMaster
- Dermatology to Barton Street (the focus of this move is plastic surgery)
- Mental health to McMaster
- Pregnancy and birthing, neonatology and the Women's Health Centre to McMaster (to be replaced by the "Maternal and Child" program from Charlton Street)

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[*] Although the model suggests that percentages of a sites program relocate, the determination of the percentage is based on the potential size of the combined programs at the Concession Street site. In most cases patient volume needs to be transferred to fit the Concession Street site. The volume could be from either or both programs. Attributing the percentage to the program of a particular site is a modeling convenience as much as a prescription for change.

- 80% of gynaecology to McMaster; and oncology-related gynaecology remaining at Concession Street with the gynaecological services from Charlton Street

McMaster Site Programs

All existing McMaster programs and services remain at the McMaster site except,

- Quaternary haematology and 50% of tertiary haematology to Concession Street (This will provide for the consolidation of bone marrow transplants and oncologic hematology at the Concession Street site.)
- Children's oncology will remain at the McMaster site as children's tertiary program.

Rehabilitation

All rehabilitation programs consolidated at the Chedoke site, except rehabilitation services provided for inpatients in the normal course of acute care.

Chronic Care

All chronic care programs to be consolidated at two sites, St. Peter's Hospital and the Chedoke site.

Mental Health

Tertiary mental health and forensic beds are located at the Chedoke site. Location of Emergency Psychiatry remains an outstanding issue. Community consideration should be given to increasing the number of emergency psychiatric units. Further input will be required from the Regional Mental Health Planning Group during the inmplementation phase to determine the location of the emergency psychiatric treatment centre and the possible need for two units in this community.

Restructuring should result in geographical redistribution of services to improve local access to core services and to higher volume specialty services. The consolidation of services among fewer physical plants will result in the elimination of excess capacity, the reduction of overhead and infrastructure costs and the concentration of capital investments in property and technology at fewer sites.

Supporting the Reconfigured System

The relocation of programs and services, and the consequent alteration of established patterns of health care delivery, inevitably cause dislocation, disruption and concern. Careful implementation planning will be required to ensure the most effective program configuration. Importantly, implementation planning will need to consider the impact on patient care and providers. To facilitate the movement of physicians with the programs, it is advisable that a common physician credentialing system be established for the Region so that physician appointments and privileges are easily transferred among sites.

Looking to the future, the Working Group considered at some length the potential activities for future use of the Charlton Street site. In this community there has been and continues to be support for an urban core community health centre and a birthing centre. The provision of ambulatory care through an independent health facility also presents opportunities, for instance, in the provision of ambulatory eye surgery, and the ambulatory surgery needs of other specialties such as otolaryngology, plastic surgery, urology, and general surgery. As well, there may be opportunities for other outpatient activity including respirology, allergy and rheumatology. In addition, a need for 428 long term care beds has been identified for Hamilton-Wentworth.

However, it was outside the scope of the Working Group to study and recommend alternatives at this time. It is the expectation of the Working Group that these and other options as defined by the needs of the community will be explored in the implementation phase.

4.7 Cost Implications of Restructuring

The cost implications of restructuring have been estimated using a model of hospital costs based on current industry conventions. This model categorizes costs, then measures and costs changes in the amounts and types of services provided by hospitals.

Exhibit 4.7.1 sets out the major cost impacts of the Working Group's restructuring proposals. Overall, it is estimated that annual savings in excess of $140 million can be achieved by 2000. These savings would derive from:

- Clinical efficiencies associated with increase ambulatory procedures, reductions in average length of stays and reductions in ALC days, are estimated at $59 million;
- Reductions in fixed and overhead costs of $34.8 million can be achieved by discontinuing the use of the Charlton Street site and the Hamilton Psychiatric Hospital site;
- Re-engineering and sharing can produce savings conservatively estimated in excess of $33 million;

- Merger savings of $14.6 million generated from the merger of Hamilton Civic Hospitals and Chedoke-McMaster Hospitals, and the elimination of the corporate overhead associated with one of the two merging hospital organizations.

The savings will be offset by $36.3 million of caring for the projected increased annual volume of inpatients, and the cost, $3.4 million of increased ambulatory care.

Thus the net savings in acute care operating costs will be $101 million per year, or 16% of the actual cost in 1994\95.

The savings in acute care will be offset by increased volumes in rehabilitation and tertiary psychiatry ($8.6 million); increased volumes in long-term care, home care and primary care ($7.1 million).

Thus, total net savings to the health system from restructuring of acute care will be approximately $85.8 million per year, or 12.4% of hospital spending in 1994/95.

Exhibit 4.7.1

Summary of Cost Impact on Health System of Hospital Restructuring

Annual Hospital System Costs in 1994/95		**$ 691,601,929**
1994/95 Acute Care Annual Cost	**$ 625,566,248**	
Projected Annual Inpatient Cost Reduction from Restructuring by 2000		
Clinical Efficiencies from Perform Tgts	$ (59,331,543)	
Reduction in Overhead from Site Closing	$ (34,800,000)	
Additional Savings from Reengineering/Sharing	$ (32,597,733)	
Potential Savings from Merger	$ (14,685,756)	
Total Potential Savings from Restructuring	**$ (141,415,032)**	
Increase in Annual Cost from Increase in Inpat. Vol. by 2000	**$ 36,359,072**	
Net Savings from 1994/95 Costs for Inpatient Acute Care	**$ (105,055,960)**	
Projected Annual Change in Outpatient ER & Clinic Costs		
From Decrease in ER Volume by 2000	$ (1,263,323)	
From Increase in Ambulatory Clinic Volume by 2000	$ 4,728,037	
Total Potential Increase in Annual Outpatient Costs by 2000	**$ 3,464,714**	
Net Savings in Cost of Acute Hospital Care	**$ (101,591,246)**	**$ (101,591,246)**
Percent Savings of Acute Care Costs	**-16.2%**	
Cost of Acute Care in Restructured System in 2000	**$ 523,975,002**	
Increase in Annual Cost of Tertiary Psych due to Volume	$ 5,443,986	
Decrease in Chronic Care Cost Due to Bed Re-Classification	$ (2,298,171)	
Increase in Rehabilitation Cost Due to Volume Increase	$ 5,453,893	
Net Change in Non-Acute Hospital Inpatient Costs		**$ 8,599,708**
Annual Cost of Restructured Hospital System in 2000		**$ 598,610,391**
Net Saving in Annual Cost of Hospital System by 2000		**$ (92,991,538)**
Percent Reduction In Total Hospital System Costs		**-13.4%**
Required Increases in Spending in Other Sectors		
Additional patients in long-term care	$ 512,838	
Additional patient volume in home care	$ 4,843,812	
Additional patient volume in primary care	$ 1,770,892	
Total Required Increase in Other Sectors		**$ 7,127,542**
Projected Net Health System Annual Operating Cost Savings from Restructuring of Hospital Services		**$ (85,863,996)**
Percent Reduction In Total Hospital System Costs		**-12.4%**

SUMMARY OF COST IMPACT ON HEALTH SYSTEM OF HOSPITAL RESTRUCTURING

Annual Hospital System Costs in 1994/95		$ 690,724,701
1994/95 Annual Cost of Acute Hospital Care	$ 620,825,366	
Projected Annual Inpatient Cost Reduction from Restructuring by 2000		
Clinical Efficiencies from Perform Tgts	$ (48,476,913)	
Reduction in Overhead from Site Closing	$ (34,800,000)	
Additional Savings from Reengineering/Sharing	$ (32,597,733)	
Potential Savings from Merger	$ (14,685,756)	
Total Potential Savings from Restructuring	**$ (130,560,402)**	
Increase in Annual Cost from Increase in Inpatient Volume by 2000	**$ 35,335,361**	
Net Annual Savings from 1994/95 Costs for Inpatient Care	**$ (95,225,041)**	
Projected Annual Change in Outpatient ER & Clinic Costs		
From Decrease in ER Volume by 2000	$ (1,234,391)	
From Increase in Ambulatory Clinic Volume by 2000	5,286,082	
Total Potential Increase in Annual Outpatient Costs by 2000	$ 4,051,691	
[illegible] Saving in Cost of Acute Hospital Care	**$ (91,173,350)**	**$ (91,173,350)**
Percent Savings of Acute Care Costs	**-14.7%**	
Cost of Acute Care in Restructured System in 2000	**$ 529,652,016**	
Increase in Annual Cost of Tertiary Psych due to Volume	$ 5,443,986	
Decrease in Chronic Care Cost Due to Bed Reclassification	$ (1,867,260)	
Increase in Rehabilitation Cost Due to Volume Increase	$ 6,138,083	
Net Change in Non Acute Hospital Inpatient Costs		**$ 9,714,809**
Annual Cost of Restructured Hospital System in 2000		**$ 609,266,160**
Net Saving in Annual Cost of Hospital System by 2000		**$ (81,458,541)**
Percent Reduction in Total Hospital System Costs		**-11.8%**
Required Increases in Spending in Other Sectors		
Additional patients in long-term care	$ 1,770,892 =	
Additional patient volume in home care	$ 4,344,404	
Additional patient volume in primary care	$ 456,643	
Total Required Increase in Other Sectors		**$ 6,571,939**
Projected Net health System Annual Operating Cost Savings from Restructuring of Hospital Services		**$ (74,886,602)**
Percent Reduction in Total Hospital System Costs		**-10.8%**

Hay Health Care Consulting Group

10/05/9612:55

5.0 Implementation Considerations

In considering the potential implementation of its recommendations for the reconfiguration of acute care services in Hamilton-Wentworth the following assumptions have guided the Working Group:

- The recommendations in this report are presented as an integral part of the Comprehensive Health Care Plan for Hamilton-Wentworth.

- The restructuring of the system is a composite of the proposals for Primary Care, Acute Care and Continuing Care.

- No component is more important than any other but rather success will require progress to occur swiftly in the three areas. Conversely, delay in one area will impact and obstruct progress in the other two.

- The proposed model for re-distributing programs and services in the reconfigured system is intended as a starting point for program realignment. The implementation process will require considerable input from the stakeholders to define the most effective size and location of programs and services in the restructured system. The emphasis of the report is not upon one particular distribution of programs and services but upon the need for an appropriately sized and sustainable health care system.

- Relocation of services or programs will not occur until the receiving site is prepared to accept them, including the completion of any renovations deemed necessary.

- Reconfiguration of acute care cannot occur without prior increases in the capacity and capability of community services, particularly in-home care and long-term care. Therefore savings achieved must be retained and directed towards strengthening these components.

- Implementation of a restructured system will be supported and guided by the evolving health system board.

- All providers in the health care field should encourage and promote a system-wide culture that provides a patient-centred continuum of care across all sectors. It will take time to become knowledgeable about the system but is essential for success.

- A concerted approach to Human Resources planning is a strong priority. The committee was pleased to learn that progress in this regard is underway.
- Capital investments will be required to maintain existing facilities and additional funds will be required to facilitate consolidation of programs and services.

APPENDIX 1

MEMBERSHIP LIST

ACUTE CARE WORKING GROUP

MEMBERSHIP

Bill Barnes	Chairperson, Acute Care Working Group Health Action Task Force
John Eyles (resigned Nov'95)	Hamilton-Wentworth District Health Council
Ray Johnson (ex-officio)	Health Action Task Force
Gerard Mindorff	Hamilton-Wentworth District Health Council
Suzanne Mlekuz	Co-Chair, Acute Care Working Group Health Action Task Force
Olga Roman	Health Action Task Force
Leila Ryan	Health Action Task Force

Ministry of Health Resource
Rosalind Smith
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Consultants
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Dunlop Farrow Inc.
Hanscomb Consultants Inc.
Hay Group
Parkin Consultants Ltd.
Physical Planning Associates
Brad Keeler

Planning Staff
Marion Emo
Barry Hallman
Kathleen Rowe (resigned Jan.'96)
Joyce Zembal

Support Staff
Betty McConnell
Amanda Shanks

APPENDIX 2

FACILITIES ASSESSMENT SUMMARY REPORT

FACILITIES ASSESSMENT

TABLE OF CONTENTS

INTRODUCTION

1.0 FACILITIES ASSESSMENT SUMMARY

Page

1.1 Chedoke-McMaster University Medical Centre (MUMC) 1
- 1.1.1 Location
- 1.1.2 Type
- 1.1.3 Size
- 1.1.4 Beds, Services and Operating Rooms (OR)
- 1.1.5 Age
- 1.1.6 Physical Plant
- 1.1.7 Site
- 1.1.8 Physical Expandability
- 1.1.9 Functionality
- 1.1.10 Service Expansion
- 1.1.11 Additional Comments
- 1.1.12 Replacement/Renovation Cost Summary

2.1 Chedoke-McMaster Hospital, Chedoke Hospital 5
- 2.1.1 Location
- 2.1.2 Type
- 2.1.3 Size
- 2.1.4 Beds, Services and Operating Rooms (OR)
- 2.1.5 Age
- 2.1.6 Physical Plant
- 2.1.7 Site
- 2.1.8 Physical Expandability
- 2.1.9 Functionality
- 2.1.10 Service Expansion
- 2.1.11 Additional Comments
- 2.1.12 Replacement/Renovation Cost Summary

3.1 Hamilton Civic Hospitals - Henderson Division 10
- 3.1.1 Location
- 3.1.2 Type
- 3.1.3 Size
- 3.1.4 Beds, Services and Operating Rooms (OR)
- 3.1.5 Age
- 3.1.6 Physical Plant
- 3.1.7 Site
- 3.1.8 Physical Expandability
- 3.1.9 Functionality
- 3.1.10 Service Expansion
- 3.1.11 Additional Comments
- 3.1.12 Replacement/Renovation Cost Summary

4.1 Hamilton Civic Hospitals - General Division 15
- 4.1.1 Location
- 4.1.2 Type
- 4.1.3 Size
- 4.1.4 Beds, Services and Operating Rooms (OR)
- 4.1.5 Age
- 4.1.6 Physical Plant
- 4.1.7 Site
- 4.1.8 Physical Expandability
- 4.1.9 Functionality
- 4.1.10 Service Expansion
- 4.1.11 Additional Comments
- 4.1.12 Replacement/Renovation Cost Summary

5.1 St. Joseph's Hospital 20
- 5.1.1 Location
- 5.1.2 Type
- 5.1.3 Size
- 5.1.4 Beds, Services and Operating Rooms (OR)
- 5.1.5 Age
- 5.1.6 Physical Plant
- 5.1.7 Site
- 5.1.8 Physical Expandability
- 5.1.9 Functionality
- 5.1.10 Service Expansion
- 5.1.11 Replacement/Renovation Cost Summary

6.1 St. Peter's Hospital 26
  6.1.1 Location
  6.1.2 Type
  6.1.3 Size
  6.1.4 Beds, Services and Operating Rooms (OR)
  6.1.5 Age
  6.1.6 Physical Plant
  6.1.7 Site
  6.1.8 Physical Expandability
  6.1.9 Functionality
  6.1.10 Service Expansion
  6.1.11 Additional Comments
  6.1.12 Replacement/Renovation Cost Summary

7.1 Hamilton Psychiatric Hospital (HPH) 30
  7.1.1 Location
  7.1.2 Type
  7.1.3 Size
  7.1.4 Beds, Services and Operating Rooms (OR)
  7.1.5 Age
  7.1.6 Physical Plant
  7.1.7 Site
  7.1.8 Physical Expandability
  7.1.9 Functionality
  7.1.10 Service Expansion
  7.1.11 Additional Comments
  7.1.12 Replacement/Renovation Cost Summary

8.1 St. Joseph's Community Health Care Centre 36
  8.1.1 Location
  8.1.2 Type
  8.1.3 Size
  8.1.4 Beds, Services and Operating Rooms (OR)
  8.1.5 Age
  8.1.6 Physical Plant
  8.1.7 Site
  8.1.8 Physical Expandability
  8.1.9 Functionality
  8.1.10 Service Expansion
  8.1.11 Replacement/Renovation Cost Summary

Facilities Assessment Summary

Background

The Health Action Task Force commissioned a review of major health care facilities in the Region. The purpose of the review was to determine the viability of facilities to sustain and support services in the short term and to assess opportunities and limitations posed by existing sites and facilities for future planning. Facilities included in the review were Chedoke-McMaster Hospitals, Hamilton Civic Hospitals, St. Joseph's Hospital, St. Peter's Hospital, Hamilton Psychiatric Hospital and St. Joseph's Community Health Centre. The outcomes of the facilities assessments were used along with other criteria to help inform strategic planning decisions.

Process

The process involved teams comprised of architects, engineers and health planners examining site plans and related materials supplied by the hospitals, visiting the sites, confirming information and submitting reports to the Task Force for its consideration. Each facility received copies of its assessment report and subsequent to this, representatives from each facility met with members of its site assessment team to confirm/correct information in their report. Incorrect information was revised and addendums to reports issued to all facilities.

The facilities' components that were evaluated included

a) site size, ease of access
b) building fabric e.g walls, roofs, windows, etc.
c) building structure e.g. columns, load bearing, walls, beams, floor to floor heights, etc.,
d) building systems e.g heating, ventilation, ait conditioning, electrical power, lighting, communications, etc.
e) compliance with codes
f) useful life expectancy
g) ease of adaptation and/or redevelopment
h) suitability for re-use

Outcomes

The facilities assessment assisted the Task Force in its assessment of the capacity of current facilities to meet present and future needs. In addition, the assessments indicated the capital requirements for renewal costs over the next five to ten years to permit continued use according to current building standards. The renewal costs represent an "order of magnitude" and assume current facility program and service functions.

The following pages provide summary information from the facilities' assessments.

1.0 FACILITIES ASSESSMENT SUMMARY

1.1 Chedoke-McMaster University Medical Centre (MUMC)

1.1.1 Location

- below the Escarpment
- West End of the City of Hamilton
- good access from major highway (Hwy. 403) and east/west arteries

1.1.2 Type

- acute care teaching hospital located on McMaster University campus
- 60/40 split in the use of the structure between hospital function and the university medical research and medical school component

1.1.3 Size

- total gross square feet - 1,412,000
- hospital is 833,080 square feet
- university is 578,920 square feet
- Level 1 - 326,092 sq. ft
- Level 2 - 301,737 sq. ft.
- Level 3 - 282,441 sq. ft.
- Level 4 - 282,159 sq. ft.
- Penthouses and Service Areas - 219,571 sq. ft.
- 1,996 parking spaces

1.1.4 Beds, Services and Operating Rooms (OR)

i) Beds

- 384 active treatment patient beds

ii) Services

- research and laboratory facilities
- MUMC provides general hospital services such as emergency services, ICU and CCU, laboratory services, ambulatory care, medical imaging, medical and surgical nursing units, and psychiatry.
- MUMC provides the following clinical programs: Women's Health, Children's Health, Specialty Adult Health (Digestive Disorders, Blood Disorders), Specialized Rehabilitation and Health Services for the Elderly.

iii) Operating Rooms (OR)

- there are ten operating rooms in the surgical suite which easily accommodate the current workload of approximately 9,250 general anaesthetic cases.
- the surgical suite should be able to accommodate any potential growth of 25 to 30% in workload
- the layout of the surgical suite is functional
- size and location of the short stay unit and size of the post-anaesthetic recovery area suggest that these areas be renovated and expanded to accommodate current workloads and any future growth in surgery at the hospital; locating the short stay unit closer to the operating rooms would improve the functions of this unit.
- future development of the surgical suite would likely require the relocation of routine laboratories and the academic offices for anaesthesia.

1.1.5 Age

- built in 1971

1.1.6 Physical Plant

- four-storey building
- there are 7'6" interstitial spaces for the mechanical and electrical distribution system; these services are layered between the floors
- the interstitial spaces and 75 ft. x 75 ft. bays allow for easier reconfiguration of departmental layouts with minimal disruption
- the interstitial areas contain sprayed asbestos used on fireproofing for structural members; this access is limited and controlled.
- structure is sound internally and externally
- main roof was replaced during the past year which accounted for 65% of the roof surface
- the physical plant does not require any major overhaul, for the exception of continuing maintenance and upgrading of the fire alarm system. The fire alarm system is to be upgraded over the next five years.
- good physical plant with efficient structural system and large column spacing. Interstitial floors are a benefit in renovational work. Asbestos fireproofing is limited, and access to these areas is controlled.

1.1.7 Site

- the medical centre is restricted to the area of its structure.
- there is a residential area that lies immediately to the east across Forsyth Avenue
- Main Street West, a major Hamilton artery cuts across the southern face of the site
- McMaster University buildings border the facility to the west.

1.1.8 Physical Expandability

- there is good potential for future development within the existing building block due to the flexibility of the interstitial spaces. This can be achieved by utilizing the capacity built into the original design by expanding vertically by a partial or full floor, or through horizontal expansion by using some of the University's occupied spaces, developing these into new and lower cost space which could be built immediately to the north of the MUMC linked by bridges.

- there is some land available to the north, particularly next to the eastern half of the building block; a day care facility currently situated in this area.

- site has a limited capacity. Expansion is only possible if departments are decanted to another facility or building.

1.1.9 Functionality

- the building is in good condition in terms of departmental arrangements and physical condition but is in need of upgrading in some service areas in order to meet changing medical needs and contemporary standards.
- the primary access to all the hospital functions is by way of the main entrance and the two banks of elevators which serve the east and west wings of the main block. This concept allows for orientation to the hospital.
- the arrangement of medical services is quite functional with easy access by way of the main entrance.
- the ambulatory type departments are situated at the front of the building to minimize the travel distance for most users of the medical services.
- the size of the facility results in lengthy travel distances between various departments, such as Nuclear Medicine and similar diagnostic scanners. The hospital has employed the use of motorized electric vehicles for support services to facilitate movement within the hospital.

- most of the components of the complex are of adequate size for the care that the facility provides to the community. There are some obsolete and limited units, however on the whole the site offers good future development opportunities.

1.1.10 Service Expansion

- expansion of the eastern half of the building block would be dependent on a) relocation of the day care facility and, b) relocation of research facilities.

Current Planning Initiatives:

- MUMC intends to transfer inpatient geriatrics and to shift outpatient rehabilitation services to the Chedoke campus.
- Rehabilitation services, primarily physiotherapy and occupational therapy will focus on inpatient programming. Consideration is being given to moving these clinical support functions closer to the nursing units to facilitate ongoing integration with other aspects of inpatient care. There appears to be sufficient space located around or between units to accommodate these services currently in progress.
- new space is needed for developing Paediatric ICU, expanding the emergency services and in developing ambulatory care.
- it is necessary to relocate the short stay unit and expand the recovery room in order to update the surgical suite.
- the routine laboratories and the rehabilitation services currently located on Level 2 of MUMC could be relocated if appropriate operational plans were developed to accommodate these services in alternative locations.

1.1.11 Additional Comments

- the majority of the facility is not protected by sprinklers; it is recommended that if the facility undergoes redevelopment that sprinklers are provided throughout the facility.

1.1.12 Replacement/Renovation Cost Summary

- Approximate Replacement Cost - $179,112,200, Ranked as “good”
- Approximate Renovation Cost:
  Architectural/Structural - $3,985,000
  Mechanical- $1,153,300
  Electrical - $ 370,500
  Total - $5,508,800

2.1 Chedoke-McMaster Hospital, Chedoke Hospital

2.1.1 Location

- upper Escarpment
- West end of the City of Hamilton
- modest access (Hwy. 403)

2.1.2 Type

- specializes in assessment and full spectrum rehabilitation services (physical and psychiatric) of children, adults and the elderly including Children`s Developmental, Emotional and Behavioural Service, Acquired Brain Injury Services, Therapeutic Residential Care, Outpatient Rehabilitation Clinics, Chronic Pain Management and a Substance Abuse Program, Geriatric Assessment and day hospital.

2.1.3 Size

- 29 buildings
- total gross square footage of 535,240
- an additional 132,100 sq. ft. is leased from the hospital
- there are several large parking lots with several smaller lots distributed around the various buildings making parking generally available.

2.1.4 Beds, Services and Operating Rooms (OR)

i) Beds

- there are approximately 247.9 inpatient beds at Chedoke Hospital In addition 10 beds are funded by the Ministry of Community and Social Service. (Hamilton-Wentworth District Health Council, *1995-1996 Hospital Operating Plans - Final Report,* April 1995, p.5 - forecast operating beds for 1995-1996).

ii) Services

- chronic/geriatric care programming and related health services for the elderly including a full range of chronic, rehabilitation and long term care services
- administrative and support services (ie. materials management and food services are offered from the Chedoke campus for programs located at both MUMC and Chedoke, laundry).
- child development and behavioural programs.
- site of an Urgent Care Centre (this is the only acute care activity).

iii) Operating Rooms (OR)

- NA
- two treatment rooms and an orthopaedic room are available and are adjacent to the Radiology suite.

2.1.5 Age

- 1912 to 1987
- primarily four building periods:
  1920's - Bruce, Central, West Quarters, Southam, Long & Bisby, Continuing Care Centre and East Pavilion
  1930's - Wilcox, Patterson, Evel, Moreland
  1950's - Holbrook, part of the Wilcox, School of Medical Technology, Health Sciences Building

2.1.6 Physical Plant

- campus-like, multi-building arrangement
- buildings are 2 to 4 stories high
- individual buildings provide segregated access to a specific service.

- buildings are generally in good condition and have been well-maintained, externally there is little, if any deterioration. Internally, many of the facilities have been renovated over the years and are also generally in good condition.
- in many cases, the older buildings are in better physical condition than the newer buildings due to the use of more permanent materials, such as terrazzo, glazed block and plaster.
- the buildings serve well for the present programs provided at the Chedoke Hospital site. The facilities would require upgrading in order to provide additional programs or more acute care settings.

2.1.7 Site

- 200 acres
- Chedoke Hospital site is surrounded by residential districts
- Niagara escarpment borders to the north of the Chedoke Hospital site.

2.1.8 Physical Expandability

- excess land has been sold for a residential development package, however a large open parcel of land remains for any facility expansion.

- the individual buildings allow for individual expansion and/or infill potentialities for most of the buildings
- there is no restriction on vertical growth, although horizontal development is the preferred option.
- 14 buildings are slated for decommissioning or demolition; these include residential houses, cottages, pavilions and other low-rise buildings. Presently, the buildings are occupied.
- a number of buildings including the Continuing Care Centre are within the Niagara Escarpment Commission authority area. The urban site provisions by the Commission are less stringent than those for outstanding locations, however this may limit expansion to the north.
- there are ample opportunities for renovation and/or expansion; the site offers good development opportunities.
- the Southam Building where the laboratory program is located is presently under-utilized. This is partially rented to Mohawk College.
- there is a lack of a certain amount of flexibility at the Chedoke Hospital campus as individual services have to fit within specific buildings which may or may not provide adequate space for these services. The individual nature of the buildings also makes it difficult to share resources.

- building expansions are somewhat limited, however the site is vast for new construction. The campus-like setting allows buildings to be easily demolished and new buildings erected with minimal disruption.

2.1.9 Functionality

- generally facilities are good for most functions.
- With the exception of the Continuing Care Centre, one-half of the first floor and the entire second floor of the Holbrook Building and three floors of the Wilcox Building which are in the process of being renovated to nursing type units, none of the existing structures will meet the codes (width of corridors and exit stairs, handicapped access and washrooms, size of elevators etc.) of nursing care.

- most of the components of the complex are of adequate size for the care that the facility provides in the community. There are some obsolete and limited units, although the site offers good future development opportunities.

2.1.10 Service Expansion

- additional nursing units are to be established on Levels 2,3 and 4 of the Wilcox Building with Level 1 to be ambulatory and support services.
- the Holbrooke Building addition (1967) is designed for two additional floors.
- any additional space for nursing type services can only be provided by building additions in the vacant land area (north and west).
- expanded services can be provided with an infill building if the small Bruce Building is removed.
- the two large buildings rented by Mohawk College - the Health Sciences Building and the School of Medical Technology would be available for diagnostic and treatment functions, although they would not be suitable for nursing.
- capital redevelopment includes the:
  i) establishment of a National Centre for Disabled and Special Athletic Training and Competition
  ii) identification and renovation of specific buildings, including infrastructure requirements at Chedoke Hospital that would efficiently and effectively house the current programs
  iii) construction of a community rehabilitation centre.
- new regional services, such as a coordinated laboratory service could be developed and take advantage of the infrastructure already in place for the regional laundry service.
- the space at the Central Building, which contains the Dietary Department, cafeteria and dining room is well utilized and sufficient for its purposes. As the building is located at the centre of the Chedoke cluster of buildings this presents some difficulties in integrating the surrounding facilities which are dedicated to medical treatment.
- expansion to the various rehabilitation assessment and rehabilitation services would require the shifting and/or consolidation of programs among the available facilities. There is a great deal of land available adjacent and between the various buildings if additional area is needed for increased service loads or programs.

2.1.11 Additional Comments

- The current arrangement of programs and services located in the various buildings works well for the hospital.

2.1.12 Replacement/Renovation Cost Summary

Approximate Replacement Cost - $91,714,240, Ranked as “fair”
Approximate Renovation Cost:

Architectural/Structural -	$ 5,476,873
Mechanical -	$3,393,292
Electrical -	$ 227,952
Total-	$9,098,117

3.1 Hamilton Civic Hospitals - Henderson Division

3.1.1 Location

- located on the Upper Escarpment
- Central-East area of the City of Hamilton
- moderate to good access

3.1.2 Type

- acute care teaching hospital

3.1.3 Size

- campus of 13 buildings
- entire facility comprises approximately 660,500 gross square feet

  Wing 15 - 67,040 sq. ft.
  Wing 20 - 43,425 sq. ft.
  Wing 30 - 22,225 sq. ft.
  Wing 40 - 97,793 sq. ft.
  Wing 50 - 30,180 sq. ft.
  Wing 60 - 41,147 sq. ft.
  Wing 70 - 102,455 sq. ft.
  Wing 80 - 78,343 sq. ft.
  Wing 90 - 159,308 sq. ft.
- parking is available on site and in two parking structures. There are a total of 1,214 parking spaces. The current parking is satisfactory for its current uses.

3.1.4 Beds, Services, and Operating Rooms (OR)

i) Beds

- 399 beds are in operation; current bed capacity is 410 inpatient beds
- some additional capacity within the above-noted beds in maternity care; additional beds could be opened up in med/surg units in the 90 Wing, the oncology and haemotolgy/oncolgy units, 70 Wing and 90 Wing, all with required renovations to meet support space requirements and adjoining patient washrooms

ii) Services

- Services provided by the hospital include ambulatory care, acute care, teaching and research, rehabilitation, psychiatric, maternity, and neonatal care

iii) Operating Rooms (OR)

- the hospital generally uses eight of the nine operating rooms; the ninth room will be used if the planned relocation of major joint procedures from the General Division is implemented. One of the operating rooms is designated for urology.
- the seven general operating rooms are smaller in size than current standards (345 NSF rather than 400 NSF). This may become an issue as the use of lasers and laparoscopic techniques increases.
- the urology room is small and is only suitable for urologic procedures.
- the collocation of the surgical suite, day surgery and pre-operative assessment clinic is convenient for patients and efficient for staff and medical staff.
- there is a moderately sized central corridor for supply, staff and patient access to the OR's, although the exit/soiled corridor located along both exterior walls is narrow.
- there is insufficient storage for equipment and supplies.
- no additional OR's can be developed within the Surgical Suite. However, two larger rooms (500+ NSF) could be developed to create a total of three OR's suitable for the larger orthopaedic procedures or five general rooms. Alternative equipment space could be found.
- recovery space is generally more than sufficient for most days.

3.1.5 Age

- the buildings range in age from the 20 Wing and 50 Wing which were constructed in 1915 to the Research/Materials Management building built in 1993 and the Boiler Plant in 1995.

3.1.6 Physical Plant

- generally the exterior condition of most of the older buildings is rated fair to good condition. The newer buildings from mid 1980's to the present are rated good to excellent. Several of the older buildings require a partial or full replacement of the roof or some minor repairs. In addition, some older buildings require brickwork in certain areas.
- the interior of the hospital has generally been well maintained. The hospital has an ongoing renovation and maintenance program in place.
- A Life Safety Study was conducted in November 1988; most of the recommendations have been implemented.
- some evidence of asbestos usage on visible areas of pipe and ductwork.
- the existing single glazed wood windows in some of the buildings

are recommended for replacement as they are not energy efficient and may create discomfort for patients and staff.

- most of the buildings have been well maintained and are in good condition. Some components due to the age of the buildings, such as windows, roofs and better environmental systems need replacement to ensure energy efficiency and comfort for patients and staff. Structural systems are generally adequate, however the use of columns pose as a constraint in the completion of significant alterations to the buildings.

3.1.7 Site

- property is in an "E" zoning district which is compatible with the current use as a public hospital.

3.1.8 Physical Expandability

- the maximum height for buildings in this zoning district is 8 storeys or 26 metres. In addition, 25 per cent of the site must be landscape open space, this does not include parking lots.
- future expansion is not significantly restricted by the zoning bylaw, providing the landscape area requirements and height restrictions for buildings can be met.
- the existing buildings cannot be easily expanded for several reasons including lack of available land, structural capacity and non-conformance with Codes (which would be enforced with new construction). This inhibits inpatient unit expansion and certain diagnostic programs such as emergency and diagnostic imaging. The site does allow for opportunities for expansion if older wings were replaced.

3.1.9 Functionality

- the hospital wings are positioned at angles to one another with a strong, horizontal circulation route from east to west with wings extending to the north and south. The larger wings are connected at all levels (from the ground floor to Level 5) which allows large areas to be designated to a single department or services (surgical services, radiology etc.) or for interrelated services (fracture clinic, orthopaedic patient care unit and radiology). Due to the manner in which space has been allocated the horizontal circulation is not disruptive to patient care areas with the exception of radiology on the second level and the 80 Wing, a nursing unit on the third level.

- vertical circulation is good. There are two main elevator banks at the midway points of the 90 Wing and the 70 Wing. Both elevator banks are accessible from the main entrance of the hospital. The elevators in the 90 Wing are appropriately grouped as either patient/service and public. In addition, both have stairs which appear to be well used.

- the space in the hospital has been positioned to achieve many desirable relationships between services and programs. For example, the surgical services have been located in proximity on one floor; radiology and nuclear medicine are contiguous and the orthopaedic clinic, the orthopaedic unit and the main radiology area are adjacent. In some cases, where services could not be placed adjacent to one another, satellite facilities have been established, for example satellite radiology areas have been established with the emergency department and Cancer Centre. This is convenient for the patient but may not be the most economical.
- Due to the age of some of the older hospital buildings, the rooms are typically smaller than those which would be developed if constructed today. This tends to affect the functionality of some areas and in some cases the potential for continued use. Examples include the operating rooms, some of the radiology rooms, patient rooms and washrooms. This could be overcome to a certain extent with renovations to these areas however, it is likely that there would be a reduction in total rooms and possibly capacity.

- the hospital is constrained by narrow building wings and small floor areas which limit the ability to effect improvements in many areas, such as the patient bedrooms. The hospital has been able to effectively place many programs in the most appropriate wings. The large site could offer future opportunities if some of the older, less functional wings were replaced.

3.1.10 Service Expansion

- there are a number of initiatives occurring at the hospital They include:
  i) program management is being introduced. There is likely to be some decentralization of the therapeutic services but the extent has not been determined to date.
  ii) full joint procedures may be transferred to the General Division of the hospital.
  iii) instrument processing will be centralized to CSR and case carts will be used.
  iv) there are plans to replace some of the radiology equipment which may provide increased capacity.

3.1.11 Additional Comments

- the hospital is in the process of commissioning a new boiler plant which would service the entire facility.

3.1.12 Replacement/Renovation Cost Summary

Approximate Replacement Cost - $150,613,200, Ranked as “good”
Approximate Renovation Cost:

Architectural/Structural -	$3,167,073
Mechanical -	$2,642,653
Electrical -	$2,330,590
Total-	$8,140,316

4.1 Hamilton Civic Hospitals - General Division

4.1.1 Location

- located below the Escarpment
- is situated in the central north/east area of the City of Hamilton
- good access from major routes

4.1.2 Type

- acute care teaching hospital

4.1.3 Size

- the hospital's total gross square footage is 715,000
- the main hospital is 538,105 sq. ft.
  East (Olmstead) - 40,214 sq. ft.
  North (Cooper) - 67,672 sq. ft.
  McMaster - 57,844 sq. ft.
  Intern - 10,458 sq. ft.

- there is parking available on site for 1,063 cars, 593 parking spaces are available in the parking structure and 470 spaces are available in the grade parking lot. The current parking available at the hospital is satisfactory for its present uses.

4.1.4 Beds, Services and Operating Rooms (OR)

i) Beds

- the hospital is operating with 342 inpatient beds
- there is the capacity for the hospital to accommodate 395 inpatient beds
- there is the potential to add an additional 6 floors of nursing units between the main hospital and the East Wing.

ii) Services

- the hospital provides ambulatory care, rehabilitation, and is an acute care teaching hospital
- there are three critical care units: ICU, Burn, and a Coronary Care Unit which are all functional. Most of the patient rooms in the ICU contain two beds and are somewhat undersized and crowded. There are four private rooms, one of which is an isolation room.
- the diagnostic imaging suite (radiology and nuclear medicine), clinical diagnostic unit and ambulatory care facilities are rated as excellent. The circulation systems for the diagnostic imaging suite

and clinical diagnostic unit are well-suited for inpatients, staff and for film movement. There is the capacity to expand all three areas dependant upon having additional staff, and/or reviewing current space utilization.
- the emergency department is well organized into four patient areas: trauma, cardiac, acute care and observation, examination and treatment. The rooms are adequately sized and the department is adjacent to radiology which enables necessary and immediate access to CT and radiology. Relocation of the offices and staff facilities out of the immediate departmental area would allow space for the creation of several additional emergency places.
- the rehabilitation department which includes physiotherapy, occupational therapy, therapeutic recreation and speech language pathology is undersized in all components. Clinical space has been reallocated for research, teaching and administrative purposes.

iii) Operating Rooms (OR)

- 10 O.R.'s
- the existing operating rooms could accommodate additional procedures. Four of the ten operating rooms are used for 7.5 hours per day and six are used for 12 hours per day. Additional operating resources would be required to use the rooms to a greater capacity.
- the operating rooms are functional in terms of size, configuration, functional design, operational systems, their relationship to related services such as the ICU and the adequacy of mechanical/electrical services.
- there may be the potential to relocate the Heart Investigation Unit component of the surgical suite. However, there is no room to accommodate a third cardiac catheterization suite. Therefore, the only option appears to be to relocate the Unit elsewhere in the hospital to allow the two catheterization suites to be used for surgical purposes.

4.1.5 Age

- the four main buildings of the hospital vary in age from 1949 to 1988. The main hospital was constructed in 1988.

4.1.6 Physical Plant

- 6 to 8 storey buildings
- the condition of the exterior of the buildings range from acceptable for the age of the building to very good. The buildings are constructed of brick with several of the buildings having had either partial or full replacement of the roof in about 1990 to 1993. Two of the older buildings have windows which are less energy efficient

and are recommended for replacement. Some buildings require partial replacement of their roofs and one building in particular requires a complete new roof.

- the interior of the main building of the hospital and the areas of other buildings which have been renovated are generally in good condition and well maintained. The buildings are generally in conformance with the current code requirements regarding life safety issues. The exception to this is the McMaster building which has stairwell doors that do not have latching devices. In addition, there is an exit light at the north end of the corridor from the main hospital to the north wing that needs to be removed as the 8th Floor Wing is currently locked preventing access to the exit stair. It is assumed that there are some asbestos containing materials in areas that have not been renovated such as the 8th floor of the North Wing which is not currently used, the McMaster Building, Interns Building and Parking Garage.
- the elevators in the main hospital are new and in very good condition. Elevators in the McMaster, North Wing and East Wing have not been refurbished, however they appear to be in satisfactory working condition at this time.
- the main hospital building and the portions of the hospital which have been renovated are constructed of appropriate materials and are well maintained. In addition, the mechanical and electrical services are generally sound.

4.1.7 Site

- site is approximately 509,000 square feet
- the site is in a "H" zoning district which is compatible with its current use as a public hospital.

4.1.8 Physical Expandability

- there is considerable room for expansion as the gross floor area of the hospital is under two times the lot area and the zoning bylaw allows for coverage of four times the lot area.
- any structure is limited to 4 storeys or 17 metres in height. In addition, there is a rear yard setback requirement of 7.5 metres.
- the zoning bylaw has no parking requirements and there are no requirements for landscaped open space.
- future expansion is not significantly restricted by the zoning bylaw. Expansion could take place between the main hospital and the East Wing where the area was structurally designed to allow for the addition of 6 floors. Another option for expansion is the large surface parking lot located north of the hospital and west of the parking garage.

- the facility has been designed to allow for the potential future expansion of one wing which can accommodate 6 additional floors. There is considerable additional space on the site that can be used for expansion and is within the current zoning requirements. In addition, most departments within the hospital have the ability to increase their patient volumes by operational changes, for example additional hours of operation or staffing that do not require major physical changes to the site.

4.1.9 Functionality

- the functional layout and arrangement of services is excellent for both inpatients and outpatients. For example, certain services/programs are co-located such as the diagnostic imaging, the clinical diagnostic unit and nuclear medicine, as are the surgical suite, intensive care unit, burn unit and blood bank.
- the emergency department is well equipped with imaging equipment that is appropriate for the hospital's role as the trauma centre.
- there is convenient access to all services for patients, visitors and staff.
- the intensive care unit, coronary care unit and burn unit are extremely functional.
- consideration should be given to providing an elevator in the shaft in the main hospital between the emergency floor and the operating rooms/ICU areas as there is no direct access between these areas except through public corridors.
- there are generally functional layouts of all inpatient, clinical and outpatient facilities. The relationship between departments as well as the ease of movement of staff, patients and goods throughout the hospital is good. The hospital has good potential for future development.

4.1.10 Service Expansion

- the hospital could accommodate approximately 2,000 to 2,500 additional surgical procedures per year by relocating the Heart Investigation Unit from the surgical suite to space that is renovated or newly constructed.
- the hospital could also accommodate a small increase in workload by reopening two ICU beds, two burn beds and 34 inpatient beds.

- there are 15 beds on Level 8 in the North Wing that are apparently in excellent condition, however it would not be operationally efficient.
- most of the diagnostic, therapeutic and support services could adjust to an increased number of inpatients with the exception of rehabilitation services and nuclear medicine. These areas would

require additional space. There is unfinished space adjacent to the medical imaging department for an MRI.

- there may be capital costs associated to relocating and expanding the Heart Investigation Unit and to implementing program management if therapeutic services are decentralized.

4.1.11 Replacement/Renovation Cost Summary

Approximate Replacement Cost - $153,572,995, Ranked as "good"

Approximate Renovation Cost:

Architectural/Structural -	$148,700
Mechanical -	$3,144,400
Electrical -	$ -
Total-	$3,293,100

5.1 St. Joseph's Hospital

5.1.1 Location

- the hospital is located below the Escarpment in the central, downtown district of the City of Hamilton
- the site is well accessed by public transit and major arterial roads.
- access from the downtown core, the Mountain and east/west routes are good.

5.1.2 Type

- acute care teaching hospital

5.1.3 Size

- overall gross building area is 795,830 sq. ft.
  St. Mary Grace Wing - 298,700 gross sq. ft.
  Fontbonne Building - 108,700 gross sq. ft.
  St. Luke Wing - 110,100 gross sq. ft.
  Marian Wing - 59,110 gross sq. ft.
  Dowling Wing - 130,600 gross sq. ft.
  Martha Wing - 53,300 gross sq. ft.
  Firestone Wing - 11,280 gross sq. ft.
- the layout of the several buildings and interconnecting links is inefficient at St. Joseph's Hospital by an estimated 3 to 5%. This in effect indicates that given the research, teaching, acuity of care and complexity of services and due to the design of the hospital, the facility could use an additional 25,000 - 40,000 square feet even though it appears to have sufficient gross area as reported by "Building Services".

5.1.4 Beds, Services and Operating Rooms (OR)

i) Beds

- 484 acute care inpatient beds

ii) Services

- the hospital offers a full range of general services and specialized services, these include: ambulatory care, acute care, chronic care, rehabilitation and psychiatric care.
- Regional services provided at St. Joseph's Hospital includes renal dialysis and transplantation, specialized respirology services, emergency psychiatry, toxicology, head and neck oncology services.

- the following are recognized as centres of excellence: Chest and Allergy Care, General Internal Medicine, Laboratory Medicine, Kidney and Urinary Care, Maternal and Newborn Care, Musculoskeletal Care.
- the hospital intends to increase outpatient utilization and support greater intensity of the education and teaching aspects of the noted centres of excellence while maintaining or reducing the utilization of inpatient services.

iii) Operating Rooms (OR)

- 12 operating rooms have been located in the Sister Mary Grace Wing on Level 1 since 1962.
- there is a large 'sterile core' which can be accessed from each of the twelve suites, along with a front and rear entrance directly into the core. The OR is placed in close proximity to the ICU, emergency unit and diagnostic imaging.
- there are 2 cystoscopy suites and two fracture room suites. These rooms are adjacent to the main OR. One of the cystoscopy suites has recently been enlarged and renovated. The fracture rooms are currently used as an equipment storage area. Since 1990, the caseload for closed reduction fractures has been relocated to a new fracture clinic in the St. Luke Wing, Level 1.
- a pre-operative assessment area was recently established within the past few years. This area facilitates the assessment of patients by nurses and medical staff and allows for staff to complete pre-operative functions, such as the administration of epidurals. In addition, there is a separate pediatric area incorporated into this section of the hospital.
- in 1989, a Post-Anaesthetic Recovery Room (PARR) was constructed. This area is immediately adjacent to the OR with access from a main OR corridor. The PARR has a capacity for 14 stretcher beds and it has two glass cubicles which serves the dual purpose of a paediatric recovery area when fully opened.
- in 1990, a newly built Day Surgery Unit was established. This unit is located beside the OR in which inpatients and outpatients are prepared for their surgery; only outpatients return to the Day Surgery Unit post-operatively.

5.1.5 Age

- the oldest remaining buildings on the site (exclusive of the outpatient psychiatric rehabilitation service at 43 Charlton Ave) are the Martha and Marian wings erected in 1951 and 1947 respectively. The Marian Wing was renovated in 1980 and 1988.
- there are seven main wings or building blocks that vary in age from 1947 to 1989. Several of the wings or buildings blocks have been

renovated with most of these upgrades occurring in the 1980's. The Dowling Wing is the most recent addition which was constructed in 1989.

5.1.6 Physical Plant

- the hospital complex consists of a wide variety of buildings.
- the St. Luke's Wing and Bishop Dowling Wing which are the newest buildings are excellent facilities that are modernly designed and provide good standards to some patient care areas.
- the hospital meets all applicable regulatory code requirements.
- the temperature and humidity control aspects are manageable.
- external noise does not infringe on patient comfort or operations.
- there is a concern that the ramps which are located in the circulation corridors do not all meet the current handicapped code requirements for maximum slope. Otherwise, the facility appears to be handicapped accessible.
- the clinical programs, departments and functional areas all appear to have adequate space for the level of activity each sustains. However, this does not imply that the space is ample or excessive in any way. Most of these areas are provided only marginally adequate space despite the fact that there appears to be an adequate overall allocation of 1,640+ square feet per operating bed.
- with the exception of the 4th floor level Dowling Wing, other patient care (nursing) units were not designed with additional space for teaching.
- due to the age of many of the buildings, there tends to be continuous maintenance implications such as in the case of the Mary Grace Building where the deteriorating condition of the exterior poses annual maintenance implications and will eventually require a significant upgrade. In addition, some of the older buildings require repairs or the partial replacement of a roof.

5.1.7 Site

- the site is completely covered and there is no space for an additional building or wing of any significant size.
- the site does not meet the current planning requirements for "greenspace". Therefore, any expansion of the coverage of the site requires a special variance from the planning authority.
- the hospital does own adjacent land and properties on either side of this land are for sale or owned by the Sisters of St. Joseph.

5.1.8 Physical Expandability

- the Dowling Wing was constructed with a capacity for two additional floor levels.
- none of the other buildings at St. Joseph's Hospital has vertical expansion potential.
- the most cost-effective way for St. Joseph's Hospital to create additional space for patient activities would be to move the administrative and research functions out of their present location into another location which is off-site but adjacent to the present site. These programs/functions could be housed in space similar to the Fontbonne Hall building, commercially available space or new construction built to less stringent code requirements due to its non-patient care occupancy classification.
- due to the manner in which the buildings were originally constructed, for example some buildings have interior bearing walls, other buildings have a "short span" structural system or "tighter" floor to floor heights, because of this it limits the potential for internal renovations and/or complicates efforts to renovate for functional changes and to upgrade mechanical systems. In addition, any new construction would have to meet more stringent requirements
- the hospital has considered demolishing the existing buildings that are situated on the adjacent property that is owned by the hospital, however a proposal of this nature may be complicated due to the historical designation associated with these buildings.
- the density of the hospital site is great; replacement/demolition of an older wing would be complex as there is no available area to stage the construction if operations were to maintained during the construction.

5.1.9 Functionality

- the layout of the facility is complex due to the use of several buildings. This may be confusing to the public and outpatients in finding their way around the hospital.
- the relationships within the departments and functional areas are workable and appropriate. However, these areas (individual functional areas, departments and patient care - nursing units) could benefit from additional space for storage of equipment and supplies.
- patients have to be transported over considerable distances to access the surgical and imaging suites.
- as the emergency department in the St. Luke Wing is at the opposite end of the site from the ICU in the Dowling Wing, the transport of patients consumes an excessive amount of time. In addition, it increases the requirement for FTE porters and can often result in extended waiting times for patients.

- interdepartmental relationships are workable and could involve shorter travel distances if the facility's patient care (nursing) units were "stacked" over the primary ancillary block instead of being located in four different wings.
- the existing programs are functioning without undue inhibition from the configuration and sizing of the available space.
- the layout and internal construction methods of the Martha and Marian Wings limit the adaptability of these areas and the result is often less effective utilization. In addition, these structures occupy space that would otherwise be available for more efficient, new construction that could provide more concentrated programs and shorter travel distances between critical elements.
- as the majority of buildings on the site are older, these buildings generally do not adapt well to other uses.

5.1.10 Service Expansion

- there are two levels of the Martha Wing which are currently used for research and administrative purposes. These could be quickly and easily converted back into patient care areas as the space has not been altered. However, the building was not designed with ensuite washrooms in all patient rooms.
- it was suggested that if the inpatient services were relocated to Levels 2 and 3 in the Martha Wing an additional 25 to 60 beds could be potentially added to the overall complement. It is important to note that this relocation would require the current patient beds and continuing care unit on Level 4 of the Martha Wing to be moved to another location, such as a lower "standard" than patient care areas.
- the Dowling Wing which has the capacity for an additional two floors could accommodate an additional 70-90 beds depending on the patient accommodation (private, semi-private or ward). In addition, the space on Level 4 which is being used temporarily for storage purposes could be developed as a patient program area of 20 to 24 beds.
- the facility could not support any significant expansion of outpatient activity due to lack of space.
- the emergency program volume could increase to as much as 50,000 visits in its present space, although the present inpatient bed complement would have to be reconsidered. Minor revisions may also be required to accommodate the increase in the emergency program volume.

5.1.11 Replacement/Renovation Cost Summary

Approximate Replacement Cost - $138,922,200, Ranked as "fair"
Approximate Renovation Cost:
Architectural/Structural - $12,090,200
Mechanical - $ 2,978,962
Electrical - $ 2,368,305
Total- $17,437,467

6.1 St. Peter's Hospital

6.1.1 Location

- this single site hospital is situated below the Escarpment in the east end of the City at the corner of Norway and Maplewood.
- the hospital is not located on a major arterial road system but major east/west arteries are nearby.

6.1.2 Type

- St. Peter's Hospital is a Level 3 Chronic Care facility which generally serves individuals who are over 65 years of age.

6.1.3 Size

- the total gross square footage at St. Peter's Hospital is 186,130
  Main Wing - 147,350
  South Wing - 32,380
  Boiler House - 6,400

6.1.4 Beds, Services and Operating Rooms (OR)

i) Beds

- there are total of 284 inpatient beds at St. Peter's Hospital

ii) Services

- St. Peter's Hospital provides multi-disciplinary inpatient and outpatient geriatric chronic and rehabilitation services including specialty programs.
- the client programs focus on rehabilitation/reactivation, palliative care, psycho-geriatrics, stroke and musculo-skeletal rehabilitation and post-stroke reactivation/management, neurologic and major system deficit.
- the hospital offers community outreach programs and is affiliated with local teaching institutions and participates in the training of future physicians, nurses and other clinical specialties.

iii) Operating Rooms (OR)

- not applicable

6.1.5. Age

- the main wings or building blocks in St. Peter's Hospital range in age from 1934 (South Wing) to 1974 (Main Wing). The boiler house was constructed in 1957.

6.1.6 Physical Plant

- the size and configuration of the space available on the patient/client care units which are located in the Main Wing are more than adequate. These units are very client friendly, and of a non-institutional design for chronic care.
- the space for ambulatory/outpatient, community oriented programs and activities are adequately sized and configured.
- the space allocated to indirect, administrative and support functions, programs and activities is sufficient and well-organized.
- the 1930's South Wing which is the oldest remaining wing on the property lacks many basic modern services and is scheduled for redevelopment.
- the existing construction of the other Wings is of good to excellent quality and workmanship, and appropriate to the needs of the programs and clients. In addition, St. Peter's Hospital has made significant efforts to comply with all applicable regulatory codes, (the South Wing cannot economically or practically be brought into compliance due to the age and condition of the building).
- the direct client program areas and the indirect care/support/administrative functions are able to appropriately manage the internal environment such as air quality, temperature, lighting etc. (the South Wing is only able to maintain marginal control of the internal environment).
- the freight elevators are in poor condition; South Wing redevelopment will eliminate one unit and upgrade a second..

6.1.7 Site

- the hospital is situated in a residential neighbourhood which is compatible with patient areas; a primary school is located on the adjacent property which provides the opportunity for joint programs between students and seniors.
- the present site zoning is under review as it relates to the planned redevelopment.
- the site is compact
- there is reasonable walking distances to everything.
- there is an excellent vehicular drop-off at the main entry and Day Hospital.
- there is a courtyard on the property
- there is direct access to the main lobby and elevators from the rear entrance.

6.1.8 Physical Expandability

- the hospital has an architectural design for the expansion of the

South Wing which is about to begin construction. The completion of this project will alleviate the problems currently associated with this Wing. The reconfiguration of existing spaces within the building(s) would be relatively "simple" and the method of construction and structural framing would allow major renovations to be developed should program requirements change. Generous floor-to-floor heights in the lower levels (Levels 0 and Ground) provide good interstitial space for services and will allow greater opportunities for adaptation and for distribution of new/expanded technologies.

- the site is capable of significant additional expansion in either inpatient or outpatient/community programs in the future.
- the proposed South Wing redevelopment will replace the existing 80 beds in the original Wing and provide the appropriate supporting spaces.
- no additional area for future programs is anticipated at this time in this construction project, however the hospital did apply for approval in its application for variance of the South-Wing reconstruction. The application if approved would increase the maximum allowable built form on this site in excess of the needs of the replacement project. This redevelopment design would allow for the construction of a Wing that would provide an additional 80 to 100 new beds and would be consistent with the new construction.
- the structure of the Day Hospital was originally designed to accommodate an additional 3 floors. This would allow for increased activities on the inpatient units in the Main Building or provide opportunities for new programs (smaller special care focus units, programs not directly associated with inpatient programs) which will have entry from the west side of the site. However, horizontal expansion is limited by the site boundaries and the need for surface parking on the property. In addition, the impact of new construction would require the update of effected areas to current standards.
- parking requirements for future redevelopment projects could not be met within the current site without a structured deck design or the provision of underground parking.

6.1.9 Functionality

- the main building of St. Peter's Hospital does lend itself easily for adaptation for changed or expanded use due to the high floor-to-floor heights, the construction methodology and the materials used in the original construction; The lower level is less flexible due to the block wall partitions.
- all interdepartmental/intradepartmental relationships between direct and indirect client care functions are appropriately established and

contribute to the effective and efficient delivery of services/programs.
- program areas in the facility are conveniently accessed by the clients, staff and the general public.
- travel distances between program areas are minimal or manageable and do not have a major impact on programs or staff productivity.

6.1.10 Service Expansion

- the activity of the existing outpatient/community programs could be expanded by as much as 25% without major retrofit or expansion of the present facility. However, any significant expansion could only be accommodated through the addition of new construction as there are no "under-utilized" areas in the facility.
- some, small opportunities could possibly occur through the incremental reorganization of some programs in the facility.
- the hospital is considering (at time of assessment) the following service expansion opportunities:
  Urgent Care Centre
  Geriatric Assessment Unit (10 beds)
  Short Stay Unit (5 beds)
  Transitional Support Unit (6 beds)
  Hospital in the Dome
  Outreach
  Mobile - urgent care
  Support for Caregivers
  Community Education
  Support to Long Term Care/People at Home/Home Care
  Support to Acute Care
  Support to Neighbourhood
  Support to the Board of Education

- Some of these initiatives could be accommodated within the existing space by altering the hours of operation, however some would require expansion or adaptation of the existing space. The patient program would be best supported by the vertical expansion of the Day Hospital Wing, including a dedicated elevator/access from the existing drop-off point.

6.1.11 Comments

- a Master Plan has been created for the continuation of the redevelopment of St. Peter's Hospital which will allow for significant expansion of either the inpatient or outpatient/community programs in the future.

6.1.12 Replacement/Renovation Cost Summary

Approximate Replacement Cost - $25,127,550, Ranked as “fair”
Approximate Renovation Cost:

Architectural/Structural -	$1,396,661
Mechanical -	$1,432,699
Electrical -	$ 434,920
Total-	$3,264,280

7.0 Hamilton Psychiatric Hospital (HPH)

7.1.1 Location

- located centrally on the Upper Escarpment in the City of Hamilton on the corner of Fennell Ave West and West 5th Street.
- there is reasonable access from major arteries.

7.1.2 Type

- the Hamilton Psychiatric Hospital provides specialized programs for clients with severe psychiatric disorders.
- the hospital serves the Regions of Brant, Haldimand, Hamilton-Wentworth and Niagara.
- HPH is affiliated with McMaster University and Mohawk College and is also involved in research projects.

7.1.3 Size

- there are 11 buildings operated by the hospital
- the total gross square footage is 479,508.

7.1.4 Beds, Services and Operating Rooms (OR)

i) Beds

- there are a total of 207 inpatient beds (operating) at the Hamilton Psychiatric Hospital.

ii) Services

- HPH plays a tertiary role in the Region. Clients who require specialized/tertiary care are referred to the Hamilton Psychiatric Hospital.
- the hospital has placed emphasis on a community-focused approach to service. The majority of services are provided through community-based and ambulatory care programs. For example, over 40 clinicians at the hospital work full-time in community clinics/agencies. The hospital provides support to other providers in the community and has piloted treatment and rehabilitation programs to reduce dependence on inpatient beds.
- Programs at HPH include: Community Liaison/Assessment, Mood Disorders, Schizophrenia Assessment, Schizophrenia Intensive Treatment, Schizophrenia Psychosocial Rehabilitation, Mental Retardation/Dual Diagnosis, Acquired Brain Injury, Geriatric Psychiatry and a Forensic Program.

iii) Operating Rooms (OR)

- not applicable.

7.1.5 Age

- the buildings range in age from c.1880 to 1993; With the exception of the Acquired Brain Injury Wing/Building Block all of the other structures are pre-1960.
- several buildings were constructed in 1936 as stand-alone facilities and these buildings by the 1950's were inadequate to serve the needs of the target population.

7.1.6 Physical Plant

- generally the physical plant adequately supports the clinical programs of the facility. The existing site is satisfactory to support the clinical programs and client care in terms of its current occupancy level provided there are adequate funds available to sustain appropriate preventative and routine ongoing maintenance.
- some of the buildings have deteriorated despite the efforts of the hospital to maintain the facility with the limited maintenance/renovational funding at its disposal.
- the configuration and size of the primary client living quarters, rehabilitation, clinical support program and administrative support areas are adequate for program requirements. Renovations that have been conducted have enhanced amenities on some of the client care units and have provided space for improved, expanded or new programs offered by the hospital.
- many of the existing structures are remote from the primary clinical space which is located in the Auchmar complex.
- the exterior surfaces of the buildings are somewhat dilapidated and there is minimal thermal protection. It is questionable whether buildings of this age should be thermally upgraded however, the inefficiency of the exterior walls will always have an impact on the environmental service upgrading in the interior of the buildings.

- the hospital may not meet the current applicable Ministry of Health regulatory codes and planning guidelines, or life and safety regulatory codes, however, there are provisions in the code to allow deviation for existing conditions when safety is not unduly comprised.
- the ventilation rates are poor or non-existent in the older buildings. The direct and indirect program areas are marginally capable of appropriately managing the internal environment such as air quality, temperature, lighting etc. In addition, the air conditioning systems are not of an energy conserving style of design.

- the single pane glazing in the buildings makes it difficult to appropriately control the temperature in extreme weather conditions.
- there is only one building remaining on campus which needs to be renovated due to asbestos.
- the sewer design is a combination of storm and sanitary which is not the method of choice today.
- the chiller uses a refrigerant which will not be available shortly, the cost of conversion to another refrigerant would be expensive.

7.1.7 Site

- the hospital is situated on an 82-acre parcel of land.
- the hospital is bordered on two sides by main arterial roads but the facility has been set back to maintain privacy from these routes. The site is bordered by the "Mountain" Escarpment to the north.
- a large percentage of the site is an open landscaped area which is attractive and utilized by clients, visitors and the community for recreational purposes (playing fields, walks, drives).
- access to the site is unrestricted although some client residential units are "locked" or under restricted access.
- external noise does not unduly impinge on the programs or client comfort.
- there is a security service at the hospital and appropriate access points to the buildings are controlled. However, there has been instances of vandalism and theft of outdoor furniture although the personal security of clients, staff and the general public appear to be under control.
- although the zoning by-laws were not reviewed as part of the Facilities Assessment Study, the low-rise structures and low density of the facilities will most likely enable the site to sustain future expansion or redevelopment of the hospital.

7.1.8 Physical Expandability

- there is considerable square footage on site; the current campus style layout and architectural design features of the main buildings include significant unusable space which is dedicated to "circulation". A more modern design would result in a more efficient and productive layout and utilization of floor area.
- the site is capable of supporting considerable expansion through new construction.
- there is limited potential for supporting minor increases in programs through retrofit/redevelopment of the existing buildings. Retrofit of existing structures would be expensive to conform to current codes and building regulations.
- local planning ordinances would most likely preclude any vertical

expansion in the future as it is situated in a residential district. Vertical expansion is not structurally feasible in any building except for possibly the Goods Receiving expansion as it may have been designed for additional loading.

- Horizontal expansion is limited only by the site boundaries and need for surface parking on the property.
- existing concrete frame construction in the Fennell & Crest Divisions allows for major renovations to be conducted by removal of the internal partitions.
- internal load-bearing walls within Hickory House limit internal reconfiguration. In addition, the exterior wall configuration of the Hickory House and the Claremont do not permit opportunities for significant internal plan change.
- there are large areas within the facility that are under-utilized and provide the opportunity for significant internal redevelopment due to the shift from inpatient to ambulatory care.
- most of the equipment on site is not suitable for expansion.
- internal mechanical space in the older buildings is limited and will not support ventilation upgrades to present standards.
- future planning for the property should take into consideration the costs associated with multiple buildings in terms of maintenance, operating efficiencies etc.
- Century Manor and Inverness were included within the Facilities Assessment Study although both buildings are considered surplus by the hospital. In addition, the Claremont Building, Beckfield Building and the Barton Building are presently being evaluated by the hospital with the intent of eliminating these facilities from the hospital inventory.

7.1.9 Functionality

- the available space is adequate; it could be functionally organized to promote the objectives and productivity of the clinicians and support staff. Due to the series of minor remote buildings which are necessary for patient programming and hospital support functions, there is a loss of efficiency. In addition, maintenance and operating costs could be reduced by consolidating functions in a central building rather than relying on the current arrangement.
- due to the campus type of arrangement, outlying buildings are a fair distance from the primary functional areas although the functional areas of the main buildings are connected. This results in considerable travel distances across the site.
- although new information systems alleviate the need for physical proximity, it appears some departments do not have the benefit of electronic access.
- orientation within the existing buildings is difficult due to lack of appropriate signage, the hospital is currently working to remedy this

situation.
- barrier free access is provided to all buildings however the hospital is consistently improving washroom facilities to provide for the needs of physically-challenged individuals. In addition, elevators do not comply with accessibility standards.
- access to the separate buildings via existing drives and walkways is practical and reasonably convenient.

7.1.10 Service Expansion

- due to the shift from inpatient services, the hospital is initiating the provision of an outpatient Day Clinic and HPH has recently established an ambulatory rehabilitation centre which is located with direct and convenient access for home-based clients.
- the dietary, laundry and materials management areas could be redeveloped to provide improved operating efficiencies. This could be accommodated within the existing space available in the building for redevelopment and through reprogramming of support functions to identify additional space.

7.1.11 Comments

- Building code compliance may be most easily achieved by sprinklering of the facilities.
- An evaluation should be conducted to determine the long term physical changes that are required which would enable the hospital to provide the delivery of care in a more efficient environment.

7.1.12 Replacement/Renovation Cost Summary

Approximate Replacement Cost - $76,721,280, Ranked as "poor"
Approximate Renovation Cost:

Architectural/Structural -	$ 6,972,643
Mechanical -	$ 3,131,171
Electrical -	$ 3,310,804
Total-	$13,414,618

8.1 St. Joseph's Community Health Care Centre

8.1.1 Location

- located below the Escarpment in the east end of the City of Hamilton.
- the location is accessible from numerous major arterial roads, including the Q.E.W. as well as by bus.

8.1.2 Type

- an ambulatory/outpatient facility and is operated by St. Joseph's Hospital.

8.1.3 Size

- the total gross square footage at St. Joseph's Community Health Care Centre is 88,000.

8.1.4 Beds, Services and Operating Rooms (OR)

i) Beds and Operating Rooms (OR)

- not applicable

ii) Services

- the Centre provides an urgent care service and a variety of outpatient programs, such as children's services, mental health services, older adult health services and specialty clinics for the residents of East Hamilton.
- the outpatient programs address health concerns using multi-disciplinary teams and resources. Services are delivered through group sessions, individual therapy, treatment and assessment and there is an organized day hospital for seniors.
- the Centre provides several clinics which deal with specific health issues.
- pastoral care/support is also offered at the Centre.
- space has also been allocated at the facility in support of education, teaching and research.
- the services offered at St. Joseph's Community Health Care Centre are: Bereavement Grief Program, Communication Disorders, Community Dietician, Consumer Health Information Service, Continence Program, Diabetes Program, East Region Mental Health Services, Health Extension Service, Health Services Delivery Research Unit, Laboratory Services, Lifeline, Parent Child Program, Diagnostic Imaging (Radiology), Urgent Care Service, Chiropody

Program, Geriatric Program.

8.1.5 Age

- the St. Joseph's Community Health Care Centre was constructed in 1991.

8.1.6 Physical Plant

- the organization, size and configuration of the space is well planned and accessible for the client population.
- with the exception of an installation problem with the carpeting on the upper floor level, the surfaces and materials used in the construction are very well suited functionally for the use of this facility.
- the facility appears to comply with all Ministry of Health regulations and guidelines as well as applicable building and life safety codes.
- it is assumed that many areas of the building do not conform to the Ontario Building Code B2 occupancy requirements which is significant only if complex "hospital" programs are introduced to the site.
- there is more than ample space for the programs currently offered and envisioned in the near future for this facility.
- corridors in the office areas are 6 feet rather than 8 feet wide but this should not present as a problem unless patient care programs were relocated to these areas.
- the electrical infrastructure and systems are designed along the same principles as an acute care facility and therefore could be considered "over-engineered" for its current role.
- the building adequately maintains the internal environment however some difficulty has been experienced in maintaining the humidity during the winter months. Air quality, lighting, safety and handicapped provisions are all up to code requirements and fully support programs and clients needs.
- the facility is aesthetically pleasing and exudes an non-institutional atmosphere through the use of skylights, open atriums etc.
- the furnishings are in excellent condition and appropriate in style and quality for the program needs of the Centre.
- the centralized humidification steam boiler should be investigated to allow for the replacement of the electrical units which are expensive to operate and have proven unreliable.

8.1.7 Site

- the site is very well laid out - circulation and parking are well separated (patient/visitors, staff, delivery).

- there is sufficient surface parking for patients and their families.
- the adjacent land is used for residential and schools. There is some vacant land adjacent to the Centre.
- the external influences, such as noise etc. are easily managed
- security is provided through the facility's own security staff.

8.1.8 Physical Expandability

- although the City of Hamilton zoning issues were not reviewed in detail, the minimum parking requirements were exceeded in the original construction and it is presumed that regulatory issues have been dealt with and do not impose excessive restrictions to future initiatives.
- the construction methods and fixtures used in the building will support changes and allow for a variety of potential programs in the future.
- there is sufficient floor area to accommodate the planned expansion of services and is most likely sufficient for any programs which may be envisioned in the near future.
- there are two vacant areas within the building that have been designed for future program use including 2500 sq. ft. on the upper level suitable for clinic use which is complete with a reception counter.
- the methods of construction will not inhibit future internal retrofit to meet the changing needs of future programs. The use of concrete block partitions in the lower levels complicates internal changes to a certain degree but the structural framing and floor-to-floor heights are compatible.
- the structure can accommodate an additional storey which would add approximately 50% to the available floor area.
- additional surface parking as well as horizontal expansion towards King Street of 25 to 50% of the current available floor area depending upon whether the construction was one or two storeys could also most likely be accommodated on the site.
- any internal alterations that relocate some of the clinical programs must ensure that the fire separations are maintained and extended to provide appropriate compliance to allow for these changes.
- a new mechanical room would be required to house ventilation if the building is expanded.
- there is sufficient electrical capacity to accommodate expansion or any change in the use of the facility which would require high medical equipment.

8.1.9 Functionality

- the clinical programs at the Centre are well supported by the physical plant, generous interior spaces and the relationships between the site, parking and pedestrian access are excellent. For example, the covered entrances from vehicle drop-off points provides excellent access to the facility. The travel distance and terrain between the Urgent Care and the parking lot is less desirable.

- the facility has been well-planned both internally and externally.
- the relationships between associated programs and functions in the facility are appropriate and within acceptable travel distances. For example, programs have been relocated within the facility to enhance their accessibility and to ensure utilization such as the client library/reading area which has been relocated to the upper floor level and is adjacent to the main entrance.
- there are 2 elevators located centrally in the building for ease in the use of the facility.
- the entire facility is handicapped accessible.
- signage and other considerations make the facility user-friendly to clients.

8.1.10 Service Expansion

- there is a procedure room located in the Diagnostic Imaging Department on the lower level which was constructed but not finished. This is a 325 square foot area which has been fully prepped for future service and includes a 6" drop in the slab to allow easy installation of services below the floor level.
- the reasonable floor-to-floor heights in the facility do not compromise the expanded delivery of future services to the programs in any manner.
- as the Centre does not provide any component of inpatient care, there are certain programs and procedures which cannot be provided by this facility. For this reason, the facility is not achieving its potential volume at this time.
- the utilization of the facility is expected to change in the near future as existing programs are expanded and new services offered. The facility expects utilization of available space will approach 100% by year end. New services that will be offered include:
  Rehabilitation
  Rheumatology/Osteoporosis (including Bone Densitometry)
  Physical Medicine/Sports Medicine
  Orthotics/Prosthetics
  Occupational Health
  Dermatology
  Neurology
  Respirology (including Tuberculosis)
  Pilot Project (Attention Deficit Disorders, Anger Management, Development of Self- Esteem in Adolescents).
- there are some activities/functions that currently are located in

generous space allocations. Reconfiguration of these areas could provide additional space for new/expanded programs.

- currently, the existing facility is using no more than 33 - 50% of its capacity.

8.1.11 Replacement/Renovation Cost Summary

Approximate Replacement Cost - $11,880,000, Ranked as "good"
Approximate Renovation Cost:

Architectural/Structural -	$	351,174
Mechanical -	$	103,039
Electrical -	$	18,041
Total-	$	472,254

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APPENDIX 3

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APPENDIX 4

GLOSSARY

GLOSSARY OF TERMS

Academic Health Science Centres
Hospitals with formal university affiliations that have major research initiatives, provide substantial training for medical students and other disciplines at both undergraduate and postgraduate levels, and provide a comprehensive array of significant tertiary and quaternary care programs on a regional basis.

Accessibility
Refers to the degree to which one is able to secure health care services without physical, language, cultural or economic barriers.

Accountability
The obligation to answer for the discharge of responsibilities that affect others in important ways.

Acquired Brain Injury (ABI)
Acquired brain injury can result from trauma or non-traumatic causes such as stroke, tumour, or infection.

Acuity
The acuteness of an illness.

Acute Care
Care or treatment for illness or injury requiring concentrated attention by health care workers, usually for a short period of time.

Administrative and Support Services (Hospital)
Hospital functional centres that support other functional centres providing patient care, diagnostic and therapeutic services but do not directly deliver patient services themselves.

Adult Day Service
A support service which provides supervised activities in a group setting to assist in achieving and maintaining their maximum level of functioning, to prevent premature and inappropriate institutionalization and to provide respite and support for caregivers

Affiliated Teaching Hospital
A hospital with an affiliation agreement with a University, indicating compliance with Royal College of Physicians and Surgeons criteria.

Allied Health Professional
A person who is not a physician, nurse or pharmacist, and who works in the health field. An allied health professional may, for example, be a dietician or a physiotherapist.

ALS
Advanced Life Support

Alternate Level of Care (ALC)
An ALC patient is a non-acute treatment patient occupying an acute care bed.

Alternative Therapies / Professionals
Offer therapies, such as reflexology, naturopathy or homeopathy, that are considered outside the practice of Western medicine.

Ambulatory Care
Walk-in care not requiring an overnight stay in hospital.

ARIS
Ambulance Response Information System

Assessment
Assessment involves systematically collecting information gathered from all available sources and evaluating the information in order to develop a plan of care.

Audiology
Clinical diagnosis and treatment of hearing loss (study of hearing loss).

Average Length of Stay (ALOS)
A standard hospital statistic. For a given group of patients, their total lengths of stay (LOSs) are added together, and that total is divided by the number of patients in the group.

BLS
Basic Life Support

Base Hospital Program
A program designated by the Ministry of Health to provide leadership and medical direction in pre-hospital emergency health services for a specific geographical area.

Benchmark
The benchmarks are markers against which progress toward achieving reform can be measured.

Canadian Institute for Health Information (CIHI - formerly Health Medical Records Institute, HMRI)

Cancer Care Ontario
Multi-stakeholder organization to be developed as the main provincial advisory body to the MoH with respect to cancer. It will be a direct provider of service through regional cancer centres and be responsible for developing the provincial framework.

Capitation
A method of payment in which a provider receives a fixed fee per person ("per capita") for a period of time, and the provider agrees

to furnish to the persons for whom the capitation payments are received, all the care that may be required (within the contract limitations) without further fee.

Care Maps
Flow charts that guide provision of health care to, and anticipated response of, patients with specific disease conditions.

Case Management
Case Management Services include assessment, determination of eligibility and coordination of homemaking services and professional services.

Case Mix Groups (CMGs)
Classification methodology developed by the Canadian Institute for Health Information (CIHI - formerly HMRI) to aggregate hospital morbidity data according to similarity in resource use and clinical characteristics. CMG's are grouped together to form MCC's (Major Clinical Categories).

Central Ambulance Communication Centre
The ambulance dispatch centre.

Central Bed Registry
Computerized bed registry that allows health care professionals in Hamilton hospitals and the ambulance dispatch centre to determine bed availability for a patient's particular needs.

Central West
A District Health Council planning region including Brant, Haldimand-Norfolk, Halton, Hamilton-Wentworth, Niagara, Waterloo, and Wellington-Dufferin.

Central West Health Planning Information Network (CWHPIN)
Regional partnership to support the planning, education and research requirements of the partners through needs identification and prioritization, information dissemination, professional eduction/skills development, evaluation and research. Partners include: Central West District Health Councils, Public Health Units, and Faculty of Health Sciences.

Chronic Care
Care required by a person who is chronically ill and/or has a functional disability, whose acute phase is over, whose potential for rehabilitation may be limited and who requires a range of therapeutic services, medical management and/or skilled nursing care plus provision for meeting psycho-social needs. The length of time care is required is unpredictable.

Chronic Care Role Study (CCRS)
Major provincial initiative undertaken to determine the future role of chronic care hospitals in relation to the redirection of long term care. See "Report of the Chronic Care Role Study Steering Committee", Ontario (May, 1993).

Clinical Protocols
Systematically developed statements to assist practitioners and patients with decisions about appropriate health care for specific clinical circumstances.

Community
A group of people who share a geographical centre or who share interests, activities, and concerns.

Community-based Ambulatory Services
Walk-in care in a community-based facility.

Community-based Care
Health care services provided to individuals and families by non-hospital-based agencies such as Home Care, Public Health or Community Health Centres.

Community Care Access Centre (CCACs)
Community Care Access Centres (CCACs) will offer a single point of access to the long-term care system. Clients and their families will be able to call the CCAC, in their community, for information about community health and support services or admission to a Long-Term Care Facility.

Community Health Centre (CHC)
A facility which offers a range of co-ordinated primary health care and related services to one or more priority groups. These services, which are provided by a number of different health professionals (multi-disciplinary approach), are specifically designed to meet the health needs of the CHC's priority group(s). Health promotion and physician services are essential components of a CHC.

The CHC is sponsored and managed by an incorporated non-profit community board whose members include individuals served by the CHC and others in the community interested in health and social services.

Co-morbidity
The presence of more than one chronic condition.

Comprehensive Care
It is the provision of a full spectrum of care including the diagnosis and treatment of disease, health promotion and disease prevention, rehabilitation, counselling and advocacy.

Comprehensive Health Organizations (CHO)
A non-profit corporation which is funded and accountable for providing or purchasing the delivery of a range of health and

related services for a rostered member population. In addition, the CHO may be extra-funded to provide programs or services for a catchment population.

Consolidation
The bringing together of programs or organizations onto a single site or into a single entity.

Consumer
Includes members of the general public, consumer groups, community action groups, labour and business, who do not receive any income from the health care system and who are not directly or indirectly involved in the management or delivery of health care services.

Continuing Care
Care provided to clients in a manner that responds to their social, recreational, psychological, spiritual and health needs. Clients are assisted to achieve and maintain their maximum potential levels of health and ability. The period of time during which care is required is unpredictable but usually consists of a matter of months or years.

Continuity of Care
Uninterrupted care of patients by health professionals.

Continuum of Care
A full range of flexible, effectively linked services from institutional/hospital-based care to home/community-based care.

Convalescent (see transitional care)

Coordinated Care
Involves a health professional working with other relevant professionals in a planned way to provide the range of services required by a patient.

Crisis (Psychiatric)
A crisis is the onset of an emotional disturbance or situational distress (which may be cumulative), involving a sudden breakdown of an individual's ability to cope. The individual's state of crisis (distress) is not likely to change/improve, and may worsen without immediate intervention. At times such crisis may result in putting the person at risk of potential harm to themselves or others. It is recognized that a crisis state is subjective, most often self identifies, and that it can be precipitated by biological and psychosocial factors.

Crisis Intervention (Psychiatric)
A service which provides consumers/survivors with individualized assessment, crisis counselling, medical intervention when necessary, review/follow-up and referral, environmental interventions and the provision of access to a range of supportive environments.

Critical Care By-pass
The status of each emergency department is monitored by the REACH and Central Bed Registry programs. Critical care by-pass signifies that the ER has temporarily exceeded all routinely available resources and therefore it is unsafe for this facility to receive any critically ill or injured patients.

Critical Juncture Advisory Group (CJAG)
A group of people brought together to advise the Health Action Task Force and its Working Groups.

Critical Mass
The optimum threshold for levels of service delivery at which resources are efficiently and effectively utilized (under which resources are not efficiently and effectively utilized).

CTU
Clinical Teaching Unit

DARTS
Disabled and Aged Regional Transit System

Day Care/Day Surgery
A hospital encounter between three and 24 hours duration, which typically involves a surgical, diagnostic or therapeutic procedure. Examples include Day Surgery, endoscopies and cystoscopies.

Demographic Data
Information about the size, distribution, and composition of human populations, as well as related dynamic processes such as fertility (births), mortality (deaths), and migration.

Demographic Information
Information about a person which includes such items as age, sex, race, income, marital status and education.

Dependency Ratio
The proportion of an area's dependent population compared with its supportive (income generating) population.

Determinants of Health
Factors affecting the health status of individuals, which include biological endowment (such as hereditary disorders); physical environment (such as pollution and adequate housing); social environment (such as family relationships and social supports, employment status and income level); individual behaviour (lifestyle factors such as diet, exercise and smoking); and health care (such as vaccinations, physicians' services).

Diagnostic Services
Services supporting the diagnosis of disease, e.g., laboratory, imaging (x-ray, CT scan, etc.).

Dieticians
A health professional who applies the principles of nutrition to the diet.

Discharge
The formal release of a patient from a physician's care or from a hospital.

Discharge Planning
The development of a care plan prior to the formal release of a patient from a hospital.

District
The geographic area contained by the boundaries of each DHC.

District Health Council (DHC)
Local health and social service planning bodies or boards that advise the Minister of Health on health priorities for their area or region. Council members are volunteers appointed by Provincial Cabinet and include 40% consumer representatives, 40% provider representatives, and 20% nominees from local government.

Effectiveness
Probability of benefit to patients from a specific medical service under average conditions of use.

Efficient
An effect produced with the least expenditure of resources.

EHS
Emergency Health Services

Electronic Medical Record
Reduces the paper costs of the patient medical record and the attendant storage requirements. The Electronic Medical Record makes it possible to transmit the patient record at minimum cost to the point of care for the patient.

Emergency Department
A unit within a hospital that is specifically designated, staffed and equipped to care for persons requiring immediate or urgent assessment, diagnosis and treatment of illness or injury.

Emergency Patient
An individual who requires immediate medical intervention. A delay in the provision of treatment will threaten the patient's life or functional ability.

Emergency Unit
A unit within a hospital that is specifically designated, staffed, and equipped to care for persons requiring immediate or urgent assessment, diagnosis, and treatment of illness or injury. Units are usually open 24 hours/day, 365 days/year.

Enhance
To increase, in value or worth, to add, to heighten or intensify effectiveness.

Episode of Care
A continuous course of care by a hospital or physician for a specific medical problem or condition.

Episodic Care Services
Services as walk-in clinics and house-call services which provide medical care outside regular office hours, usually without appointment.

EPT
Emergency Psychiatry Team

ESI Referral Population
Expected Stay Index Referral Population is an adjusted referral population figure based on the age of the population a hospital services and the complexity of care provided at the hospital.

Evidence-based Practice
The use of research and data to influence clinical decisions.

Faculty of Health Sciences
Responsible for major research initiatives and the training of medical students and health professionals from other disciplines.

Family Practice
The specialty of medicine which deals with providing, supervising and coordinating the continuing general medical care of patients of all ages, primarily in family groups. The care provided is primary care.

Fee-for-service
A method of paying physicians and other health care providers in which each service (for example, a doctor's office visit or operation) carries a fee. The physician's income under this system is made up from the fees he/she collects for services.

Forensic Strategy
A strategy being developed by the Ministry of Health and interministerial working groups to recommend a coordinating structure (including the Ministry of the Solicitor-General and Correctional Services and the Ministry of the Attorney General) for shared care of mentally disorder offenders.

Forensic Services
Specialized services for people with mental illness who have committed or are accused of committing a crime. This is a service that is planned for and operated provincially. Mentally disordered offenders who do not need the security of specialized programs can be integrated with the general psychiatric population and served by programs planned regionally or locally.

Forward Sortation Areas (FSA)
Geographic area defined by the first three digits of postal code.

Frail Elderly Persons
Those in whom the physical and psychosocial assets maintaining health and the deficits threatening it are in precarious balance.

French Services Designated Area
Area where Francophones form at least 10% of the local population or number at least 5,000 in urban centres.

French Language Services Act
An Act guaranteeing members of the public the right to receive services in French from offices of Ontario government agencies and ministries, in areas designated under the Act.

The Act applies equally to all Ministry of Health agencies, boards and commissions whose majority of members are appointed by the Lieutenant Governor-in-Council. (Includes DHC's)

FTE - Full Time Equivalent
A measure of staffing resources based on the annual hours of work by a full-time employee (approximately 1950 hours per year).

FTE - Full Time Equivalent (Hospital)
A measure of hospital staffing resources based on the annual hours of work by a full-time employee (approximately 1950 hours per year).

GAU
Geriatric Assessment Unit

General Practitioner (GP)
A physician who does not hold specialty qualifications, and who does not restrict his/her practice to any particular field of medicine. General practitioners and family practice specialists are primary care physicians in that they refer patients to other physician specialists.

Geographic Full Time (GFT)
A geographic full time medical staff person is defined as one who holds a university appointment and who devotes her/his full time to university directed activities.

Geriatrician
A physician specializing in the diagnosis and treatment of problems and diseases of the elderly.

Goals
Indicates the desired outcomes towards which actions/strengths are directed.

Group Practice
A medical practice where physicians work together, have formal income/expense sharing arrangements and share patient records.

Haematological Services
Diagnosis and treatment of disorders of the blood and blood forming organs.

Hamilton Health Sciences Laboratory Program (HHSLP)
The HHSLP has provided comprehensive, rationalized laboratory service for inpatients and outpatients in Hamilton and the surrounding community since 1969.

HATF
Health Action Task Force

HCP
Hamilton-Wentworth Home Care Program

Health
A personal or community state of well-being which encompasses psychological, social, emotional, physical and spiritual elements.

Health Intelligence Unit (HIU)
An organization capable of transforming health statistics and related data into practical information.

Health Promotion
The process of enabling individuals and communities to increase control over the factors which protect their health, thereby improving their health. The factors which determine the health of individuals and their communities are both individual and societal, including the social, environmental and economic structures of our communities. Individuals and communities need peace, shelter, education, food, income, a stable ecosystem, sustainable resources, social justice and equity as a prerequisite to health. (Ottawa Charter, 1986)

Health Services Advisory Committee
Is a planning structure which is responsible for assisting in the development and review of health services to meet the health care needs of the community. In addition, it serves the academic needs of the McMaster University Faculty of Health Sciences. The Health Services Advisory Committee focuses on health care issues which cross institutional, professional and programmatic boundaries. It serves as a providers' focus on regional health issues and acts in an expert advisory capacity to the Joint Liaison Committee.

Health Status
The state of health of an individual or population.

Health Status Indicator
A measure that indicates the state of health and wellbeing of an individual or the population (e.g. life expectancy rates).

Health System Board
The Health System Board would be responsible for the overall system planning, organizing and coordinating structure and would be accountable to the public and to the Ministry of Health (MoH) for the development and maintenance of the health care system in the Hamilton-Wentworth Region.

Healthy Public Policy
Promotes health and living conditions both inside and outside the health sector. Healthy public policies are those that facilitate healthy choices and promote healthier lifestyles (e.g., increasing the cost of cigarettes to deter use).

H.M.O.
Health Maintenance Organization.

Home Care
Nursing, professional allied health services and homemaking provided in the patient's home.

Hospital Planning Networks
Groupings of hospitals to support joint planning for the organization and provision of hospital services.

HPH
Hamilton Psychiatric Hospital

HPS
Hamilton Program for Schizophrenia

HSB
Health Systems Board

HWDHC
Hamilton-Wentworth District Health Council

Illness
Disease or difficulty spiritually, emotionally, psychologically, socially and/or physically including the reduced capacity to cope with society and its challenges. This concept may apply to an individual or to a community as a whole.

Immunology
The study of the immune system.

Incidence
The rate at which the onset of new cases of a particular health condition occurs. Incidence is calculated based on the number of new cases diagnosed during a particular time period (usually one year), divided by the population at risk.

Independent Health Facility (IHF)
A place where insured services are provided, but which also charges for items which are not part of those insured services. These are items which support, assist, or provide a necessary adjunct to the insured services provided.

Information, Planning & Evaluation Branch (IPEB) (Ministry of Health)
Oversees the functioning and operations of District Health Councils.

Information & Referral
A support service designed to link individuals with the appropriate community support service, in order to alleviate or eliminate a need. The service can provide information, advice and referral, personal help, emotional support and follow-up on referrals.

Infrastructure Supports
The infrastructure plays an instrumental role by providing supports to the overall health care system, this includes data and information, support services, diagnostics, laboratory and finances.

Inpatient
An admission to, and discharge from, a hospital bed, for which (a CIHI) inpatient discharge abstract is prepared. Typically, the patient remains in hospital for more than 24 hours, but can be less (for example, some sign-outs, transfers, deaths may have a length of stay of zero days).

Integrated Health Care System (IHCS)
An Integrated Health Care System is a network of organizations which provides a continuum of health care services to a defined population and is accountable for systems outcomes.

Integrating Mechanisms
Integrating mechanisms such as, the Standing Committees and the Integration Programs of the Health System Board connect the system by integrating programs and services and system or infrastructure supports (data & information systems, shared services - laundry, food, laboratories, etc.). These integrating committees and programs are accountable to the system, through the Health System Board for their use of health care resources, for providing services and for fulfilling their role in the system.

Integration
The coordination of a range of services and their delivery. Integration involves a coordination in the structures and practices among hospitals and the broader health care system.

Interdisciplinary
A variety of health professionals working together to coordinate their specialized knowledge.

Joint Action Committee
It serves as a forum for disclosure and consideration for joint action among the Hamilton area hospitals, serving as a vehicle for joint action where appropriate. It is composed of senior management and Board members from the hospitals, District Health Council, as well as representation from the Public Health Department, McMaster University Faculty of Health Sciences and Mohawk College.

Joint Liaison Committee
The focus of the Joint Liaison Committee is primarily on regional health care issues from an administrative and institutionally oriented perspective. The Joint Liaison Committee coordinates agreed upon inter-institutional planning, operation and monitoring of programs, as these relate to jointly sponsored educational, research and service activities. Membership includes representatives from the hospitals, McMaster University Faculty of Health Sciences, Mohawk College, the Public Health Department and the District Health Council.

Key Informants
People familiar with the community who possess knowledge and experience in the community, its people and their health and health care wants, needs, demands, use of services, and supply of services.

Length of Stay (LOS)
The amount of time, usually measured in days, spent by a patient in hospital.

Levels of Care
Categorization of care according to degree of medical and/or technological specialization normally required (e.g., primary, secondary, tertiary, quaternary).

Linkages
The establishment of connections between individuals or between services to strengthen and enhance the delivery of care.

Long-Term Care (LTC)
Long-term care refers to the broad range of personal care, support, residential and health services provided to people who have limitations that prevent them for participating independently in everyday activities.

Long-Term Care Reform
The provincial government-initiated reform of Long-Term Care, enacted as Bill 173.

LTC
Long-Term Care

LTC Facility
A long-term care facility is a facility that provides long-term care on a 24-hour basis to individuals whose needs can no longer be met in the community. LTC facilities include all existing nursing homes and homes for the aged.

MCSS
Ministry of Community and Social Services

Major Clinical Categories (MCCs)
Groupings of diagnoses primarily according to body system. MCC's are comprised of groupings of CMG's (Case Mix Groups).

McMaster University Faculty of Health Sciences
Responsible for major research initiatives and the training of medical students and health professionals from other disciplines.

Mean Length of Stay
Is calculated by summing all patients' length of stay divided by the total number of observations; produces average length of time spent in the hospital by a patient.

Median Length of Stay
The point above and below which 50% of patients' length of stay fall.

Mental Health
Is the capacity of the individual, the group and the environment to interact with one another in ways that promote the subjective well-being, the optimal development and the use of mental abilities (cognitive, affective and relational), the achievement of individual and collective goals consistent with justice and the attainment and preservation of conditions of fundamental equality.

Mental Health Act
An Act which provides procedural and substantive rights protection for persons in psychiatric facilities. The Act does not guarantee any positive rights such as the right to receive services.

Mental Health Reform (MHR)
Ontario government policy to shift focus of mental health services from institutional to community- based care. Mental Health Reform is a provincial framework and 10-year strategy to ensure a comprehensive, coordinated, cost-effective system of mental health services. The goal of mental health reform is to develop a system that will support people with mental illness in living fulfilling lives in the community. The first priority of mental health reform are those individuals with severe mental illness/severe mental health problems.

Mental Health Reform Steering Committee
A district (Hamilton-Wentworth) planning structure established to lead local mental health reform planning and guide the

development of a district mental health implementation plan based on mental health reform planning principles.

Mental Health Service Provider
A person who earns his or her living from the formal mental health service system. Service providers may include representatives from provincial psychiatric hospitals, specialty psychiatric hospitals, general hospitals and community mental health services, physicians, and other health professionals.

MHP
Mental Health Plan

MHPSG
Mental Health Programs and Services Group

Midwife
A health professional with qualifications in obstetric and neonatal (newborn) care who manages maternal and perinatal care in normal pregnancy, labour and childbirth.

Minimally Invasive Surgical Technology
An advance in surgical techniques characterized by small incisions and use of lasers or micro-surgery, leaving minimal scar tissue and requiring shorter recovery time.

MOH
Ministry of Health

Morbidity
Illness, injury, or other than normal health.

Mortality
A term that applies to death. Usually used in the phrase "mortality rate," which means the number of patients who died, expressed as a proportion of those at risk.

MS
Multiple Sclerosis

Musculoskeletal Services
Diagnosis and treatment of disorders of the skeletal and muscle systems of the body.

Naturopaths
A health practitioner who emphasizes the use of natural agents and physical means to treat or prevent disease.

Needs Adjusted Performance (Needs/ Adj./Perf)
The estimated volume of cases hospitals would have provided if all individuals truly in need of hospital services had accessed them.

Needs-Based Planning
Planning that is based on assessments of health and related human service concerns.

Neonatalogical Services
Care of newborn infants and the diagnosis and treatment of disorders of newborn infants.

Nurse Practitioner
Is a registered nurse with advanced primary health care education and practice; nurse practitioners have advanced knowledge and decision making skills in assessment, diagnosis and health care management related to the provision of health care.

Occupational Therapy
Therapeutic use of work, self-care and play activities to increase independent function, enhance development and prevent disability.

Occupational Therapist
A health professional who prescribes activity to promote recovery or rehabilitation.

OHA
Ontario Hospital Association

OHIP
Ontario Health Insurance Plan

OHS
Ontario Health Survey

OPALS
Ontario Pre-hospital Advanced Life Support Study.

Ophthalmologic Services
Diagnosis and treatment of disorders of the eye.

Optometrist
A health professional who examines eyes for defects and prescribes corrective lenses.

Outcome
A term used in evaluating patient care, the health care system and its components.

Outpatient
Care provided to a patient that does not necessitate admission of the patient to an inpatient bed.

Outreach/Education
Services provided in the community, but not in person's home, including community education sessions. Examples include prenatal classes, prevention and health promotion seminars.

Palliative Care
Palliative care is the active compassionate care, primarily directed toward improving quality of life, for those who are dying. It should be available to the individual and family at any stage of the palliative process from illness, through to bereavement.

Patient Days
The total number of inpatient service days, for all patients, during a specified period of time (usually month or year).

Patient Service Group (PSG)
An array of services, skills, technologies and other resources provided by hospitals in response to the identified or anticipated needs of a specific group of patients.

Performance Parameters
Quantitative measures of a number of hospital utilization statistics including admission rates, length of stay, and discharge management practices.

Pharmacist
A person who is licensed to prepare, dispense and control prescription drugs.

Physiatry
Specialized rehabilitation services provided by physicians trained in physical medicine.

Physiotherapists
A health professional who treats disease by physical and mechanical means (e.g. regulated exercise, water, massage, heat, etc.)

Physiotherapy
Treatment by physical and mechanical means, such as massage or electricity to promote wellness, independent lifestyle, optimal health and movement.

Placement Coordination Service (PCS)
This service determines eligibility and authorizes admissions to LTC facilities. The service also provides information and referral to LTC community services.

Planning
'Planning is preparation for the future by analysis and examination of alternative courses of action, with the purpose of achieving desired objectives. To be useful, planning must be capable of implementation; it must take into account political, social and economic realities and be reasonably sure of public acceptance...' (Ontario Council of Health, 1977).

Population Health
Addresses the entire range of individual and collective factors that determine health.

Population Needs
The requirements of a population for health and related services.

Population Needs Analysis
Analysis of the requirements of a population for health and related services.

Prevalence
The total number of cases of a particular health condition within a population at a particular point in time. Prevalence is calculated by dividing the number of known cases at a particular point in time by the population at risk at that point in time.

Prevention
Prevention of disease occurs at three levels. These are:

> ***Primary Prevention***
> Aims to completely avoid the disease.
>
> ***Secondary Prevention***
> Aims to detect and cure disease before symptoms occur.
>
> ***Tertiary Prevention***
> Aims to minimize the effects of a disease for a patient who already has the disease.

Primary Care
Care provided by a health care worker on a patient's first contact with the health care system (includes visits to Doctor's offices). Primary care may result in a referral to more specialized levels of care.

Primary Care Practitioner
A person who provides promotive, preventative, curative, supportive and\or rehabilitative resources in a community-based organization, for example, midwives, community pharmacists, public health nurses, family physicians, etc.

Primary Health Care
Is essential health care made universally accessible to individuals and families in the community by means acceptable to them, through their full participation and at a cost the community and country can afford . . . It forms an integral part of the country's health care system of which it is the nucleus . . . It is the first level of contact of individuals, the family and the community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of

a continuing health care process . . . Primary health care addresses the main problems in the community, by providing promotive, preventative, curative, supportive and rehabilitative resources accordingly.

Primary Medical Care
Is first contact care which includes the diagnosis, treatment and management of health problems using preventative and promotive strategies at the individual, family and community level.

Professional Services

Nursing
The practice of nursing is the promotion of health, assessment, provision of care and treatment of health conditions by supportive, preventive, therapeutic, palliative and rehabilitative means in order to attain or maintain optimal function.

Physiotherapy
The practice of physiotherapy is the assessment of physical function and the treatment, rehabilitation, and prevention of physical dysfunction, injury or pain to develop, maintain, rehabilitate or augment function or to relieve pain.

Occupational Therapy
The practice of occupational therapy is the assessment of function and adaptive behaviour, and the treatment and prevention of disorders which affect function or adaptive function in the areas of self care, productivity and leisure.

Social Work
The discipline of enabling persons and families to develop skills and abilities necessary to optimize their functioning and thus reduce the risk of psycho-social breakdown.

Speech-Language Pathology Services
The practice of speech-language pathology is the assessment of speech and language functions and the treatment and prevention of speech and language dysfunctions or disorders to develop, maintain, rehabilitate or augment oral motor or communication function.

Dietetic Services
The practice of dietetics is the assessment of nutrition and nutritional conditions and the treatment and prevention of nutrition related disorders by nutritional means.

Pain and Symptom Management
A service to fund a manager/office support and expenses to draw Pain and Symptom Management Team members together.

Community & Facility Palliative Care Interdisciplinary Education
This service provides two levels of education to front line health care staff.

Behaviour Management (ABI)
This is a service that utilizes learning theory as a basis for the design and implementation of programs for individuals that ameliorate inappropriate behaviour and/or train new skills or lead to the reacquisition of skills lost through illness, accident or infirmary.

Protocols
Systematically developed statements to assist practitioners and patients with decisions about appropriate health care.

Provider
A person who is involved in the provision of health services including members of the medical or allied health disciplines; persons engaged in the management or administration of health services, including program/facility administrators and members of boards of trustees of health agencies.

Provincial Cancer Network
Established in 1994 as a consortium of stakeholders, eg. consumers, providers, and the government. It's primary task has been the development of a provincial framework for the coordination of cancer services in Ontario.

Psychiatry
The branch of medicine which deals with mental, emotional, and behavioural disorders. One of the medical specialties for which residency programs have been approved by the Accreditation Council for Graduate Medical Education.

Psychiatric Tertiary Care Centre
Highly specialized services for people who are severely and chronically mentally ill and need longer-term treatment, rehabilitation and reintegration. These services are planned and provided on a regional basis and delivered in an institution, usually a Provincial Psychiatric Hospital.

Public Health
Designed to improve the health of the entire community or population group.

Quick Response Service (Q.R.S.)
The service provides enhanced services to patients in their own

home or at a respite location in order to avert a hospital admission. Also prevents unnecessary use of hospital emergency departments.

Quaternary Care
Highly specialized tertiary services usually available in only a single site serving a large urban population.

Rationalize
To discover and express reasons to make the health system more efficient and less costly.

R.E.A.C.H.
Regional Emergency Access to On-Call Health Professionals. Service helps physicians in Central West find specialist and specialty beds for patients who need emergency care.

Referral Population
The total number of people who could potentially be sent to a hospital for either consultation or care.

Region
The Ministry of Health has defined six planning regions. These form geographic units for health systems management and planning. All District Health Councils in the province are organized under one of the six planning regions.

Regional Cancer Network
Each region will establish a regional cancer network (RCN) with membership representing all stakeholders in the region. The RCN will develop and monitor the implementation of a regional cancer plan. The RCN will ensure the plan addresses equitable access to information, quality care, and treatment. The plan should be consistent with the provincial framework, but also address regional planning priorities based on local needs.

Regional Programs
The 15 Regional Programs are another avenue where joint planning occurs. These programs serve Hamilton-Wentworth and Central West Ontario, they are: geriatrics, oncology, perinatology, respirology, emergency services, trauma, critical care, cardiovascular care, palliative care, acquired brain injury, rehabilitation, gastroenterology, laboratory medicine, psychiatry and psychiatric geriatrics. The Regional Programs include community-based and institutionally-based health services which represent the coming together of health care services and disciplines that focus on the major health service needs of a defined population and integrates health services with education and research.

Rehabilitation
The provision of time-limited therapeutic services geared towards the restoration (optimization) of health, physical or other ability. Cases can be described as following four streams:

Paediatric: The short-term and long term rehabilitation needs of children between the ages of 0 to 19, and where appropriate of individuals in the 19 to 21 age group.

Adult Short-Term: Those who have suffered an acute care incident without the complications of multiple diagnoses, advancing age, or other impairments. These individuals require relatively short-term intensive rehabilitation services before returning to their home and work environment.

Adult Long-Term: Includes the needs of two patient groups.

i) those who have suffered an acute incident and require long-term, intensive rehabilitation services to respond to their complex technological needs, multiple diagnoses, or advancing age; and
ii) those who are identified as likely requiring admission to a long-term care or continuing care facility.

Adult Specialty/Tertiary Care: Patients with very complex needs requiring greater medical and professional expertise than required by patients in other streams.

Regional Palliative Care Program
The Hamilton-Wentworth Regional Palliative Care Program was established in 1984. Through its members, it has undertaken a leadership role in developing an effective local network of community and hospital palliative care services. Collaboration and communication has occurred in many areas including clinical services, research, and education.

Regional Psychiatry Program
A consortium of institutions and agencies who share a common mandate to provide psychiatric services to the population of the Hamilton-Wentworth Region. The mandate of the Program is to coordinate the planning, integration, and ongoing evaluation of child, adult and geriatric psychiatric services. The Regional Psychiatry Program is accountable to and reports to the Joint Liaison Committee.

Rehabilitation (Psychiatric)
Rehabilitation has a close but distinct association with treatment. Rehabilitation activities are defined as activities that occur after the acute treatment and are directed to improving, restoring or maintaining a person's capacity for health.

Resource Intensity Weights (RIWs)
Is an expression of the relative resources a particular Case Mix Group was expected to require for proper treatment.

Respite Care
Care that provides short-term relief for families providing continuing care for a family member at home.

Roster
A list of patients who have voluntarily enrolled with a physician practice. (usually in an HSO)

RPP
Regional Psychiatry Program

RUG III
The RUG (Resource Utilization Grouping) III is a patient classification system developed in the United States to assess the resource intensity of individuals requiring institutional long-term care. In February 1995, this system was endorsed by the JPPC Rehabilitation and Chronic Care Specialty Group as the preferred classification system for chronic care patients in Ontario.

Same-Day Surgery
Surgery completed in a short time that allows a patient to return home without an overnight stay in hospital. See Day Surgery

Schedule 1 Psychiatric Unit
A Schedule 1 facility is any facility authorized to hold patients who are either subject of an application for a psychiatric assessment (Form 1), subject of an order for examination (Form 2), held under a certificate for involuntary admission (Form 3), held under a certificate of renewal (Form 4) or held for a court-ordered assessment under the Mental Health Act.

Secondary Care
Care provided by a specialist health care professional, such as a psychiatrist or general surgeon, on referral from a primary care physician.

Security or Reassurance Service
A support service designed to provide isolated persons with regular contact to reassure them that help is available if and when needed.

Short-Stay Medical Cases
Hospital inpatients with no surgical interventions who stay three days or less.

Social Work
Assistance to patients and their families in handling social, environmental and emotional problems (in health care usage, primarily with problems associated with illness or injury).

Speech Language Pathology
The evaluation, management and treatment of adults and children with communication and swallowing disorders.

Stakeholders
A person who is affected by an issue or problem and who stands to either gain or lose through resolution of the issue. Stakeholders in the health system include consumers, health professionals, and planners.

Supportive Housing
Housing that provides independent, permanent living arrangements for people who need essential support service to maintain their tenancy.

System
A group of units so combined as to form a whole and to operate in unison. "Health system" implies the collection of parts: sectors, providers, organizations, consumers, which make up the entirety of health/maintenance/protection.

System Status Management
A computerized personnel and ambulance deployment system designed to meet service demands with fewer resources and to ensure appropriate response time and vehicle location.

Tertiary Care
Care that requires highly specialized skills, technology and support services. Usually provided in facilities serving a large region or the province as a whole.

Therapeutic Services
Services provided to patients to treat disease.

Transfer Payment Agency (TPA)
A health or social service agency that receives its funding from the government.

Transportation
A support service which provides transportation to medical appointments, shopping, and to participate in various social activities and programs.

Transitional Care
Convalescent care provided to support transfer of patients from acute care to their home or other place of residence.

Trauma
An injury caused by an external agent (e.g., a fall, motor vehicle crash).

Treatment (Psychiatric)
Treatment functions to ensure the following; identification and assessment of signs and symptoms, bio-psycho-social investigations, diagnostic evaluation, consultation, counselling and psychotherapy, medication management, hospitalization and specific mental and psychiatric care. Treatment functions may be delivered by a range of health professionals.

Triage
Sorting or classification of patients according to the nature and urgency of their illnesses or injuries and assigning priorities for treatment.

Triaging
The sorting of and allocation of treatment for patients.

Urgent Care Centre (UCC)
A freestanding community-based or ambulatory care centre that provides treatment for minor and urgent (non-life threatening) health problems on a non-appointment basis.

Utilization/Need Rates
The total number of episodes of care expressed in terms of a given population (usually 1,000 or 10,000 people).

Utilization Statistics
Information about the demand for and use of services.

VON
Victorian Order of Nurses

VSA
"Vital Signs Absent", meaning no pulse, blood pressure or respirations.

WCB
Workers Compensation Benefits

Weighted Cases
Adjustment to total cases within a Case Mix Group by multiplying cases by the RIW value.

Wellness
A holistic concept of living which embodies not only physical but emotional, psychological, social and spiritual elements.

World Health Organization (WHO)
The division of the United Nations (UN) which is concerned with health.

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